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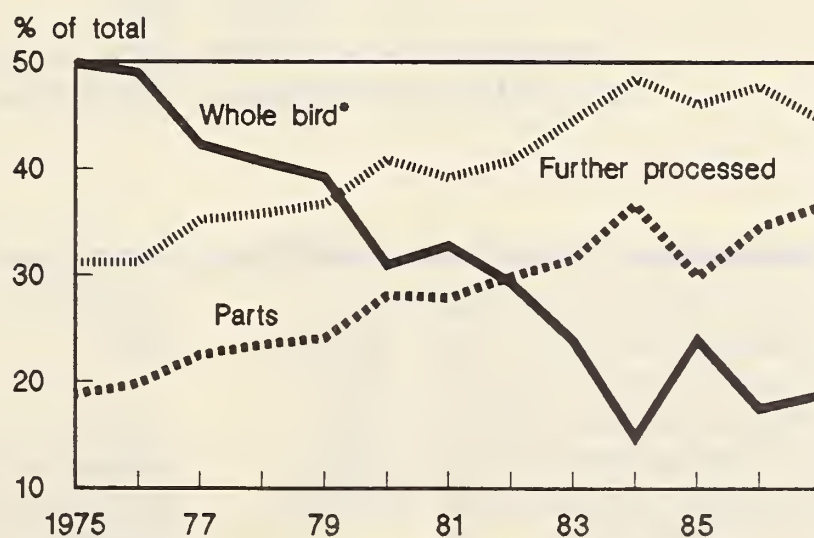
LPS-32
November 1988

SLC

Livestock and Poultry

Situation and Outlook Report

Turkey Production by Form



* Whole bird share understated due to double counting of parts and further processed production.

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Principal Contributors (202) 786-1284

Coordinator Lee A. Christensen

Lee Christensen (Factors Affecting Livestock and Poultry)

Robert Bishop (Eggs)

Mark Weimar (Poultry)

Larry Witucki (Poultry and Egg Trade)

Kevin Bost (Hogs)

Shayle Shagam (Pork Trade)

Steve Reed & Ron Gustafson (Cattle)

Linda Bailey (Beef Trade)

Rich Stillman (Sheep & Lambs)

Statistical Assistants (202) 786-1284

Polly Cochran (Livestock)

Maxine Davis (Poultry)

Electronic Word Processing

Herma S. Tickle

Erma J. McCray

Margie L. Craig

Commodity Economics Division, Economic Research Service
U.S. Department of Agriculture, Washington, D.C. 20250

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SUMMARY

Total red meat and poultry production should set another record in 1988, reflecting the strongest increase in pork in several years, and moderate growth in broilers and turkeys. Beef production will decline slightly as sharply reduced non-fed slaughter offsets record fed beef supplies. The summer drought raised feed prices in all sectors. Returns in the various sectors are mixed. Strong demand has strengthened prices, particularly for turkeys and broilers, but there will be pressure on returns in 1989. Although estimates for 1989 are for a 1-percent decline in total red meat and poultry, production will be the second largest in history.

Shoppers will find adequate supplies of turkey and plenty of ham for the holidays. Prices will likely be higher for turkey and lower for ham than last year. Turkey production in 1988 is expected to rise 5 percent compared with 17 percent in 1987. Cold storage stocks of turkeys on October 1 were 11 percent below the record level of 1987. These stocks will be drawn down further to supply holiday demands because fourth quarter production is expected to be less than last year. Ham stocks at the beginning of the fourth quarter were more than double the year-ago level, and hog slaughter is expected to increase this fall.

Turkey production for 1988 is expected to rise 6 percent from a year earlier and a 3-percent increase is forecast for 1989. The 1988 increase is based upon 2-percent more turkeys and a 3-percent increase in average slaughter weights. Wholesale hen turkey prices are expected to average 62-64 cents per pound in 1988, and 65-71 cents per pound in 1989.

Broiler production during 1988 is expected to increase 4 percent from 1987, and the same again in 1989. Broiler prices have shown remarkable strength in 1988, partly from new products introduced by fast food chains. However, prices are expected to decline slightly in 1989 as production increases continue.

The strong 1988 increase of around 9 percent in pork production is expected to fall to 1 percent next year. As of September 1, there were 5 percent more market hogs than a year ago in the 10 States reporting quarterly. Farrowing intentions for September-November and December-February indicate a moderate production increase in first-half 1989. Hog prices are under pressure because of increased marketings and could average about \$43 per cwt in 1988 and slightly higher in 1989.

Beef production during the fourth quarter of 1988 may decline 4 percent from last year. A 7-percent drop in beef production is expected in 1989. Choice steer prices during 1989 are expected to average \$71-\$77 per cwt, above the \$68-\$70 range estimated for 1988.

Total egg production in 1988 is expected to decline about 1 percent. Producers began downsizing the laying flock early in 1988 after a long period of negative net returns. Expectations of poor net returns for table eggs will likely bring a decline in production of about 2 percent in 1989.

Table 1--Livestock, poultry, and egg production and prices
(All percent changes shown are from a year earlier.)

Item	1987			1988					1989 1/		
	III	IV	Annual	I	II	III	IV 1/	Annual 1/	I	II	Annual
Million pounds											
Production											
Beef	6,064	5,850	23,405	5,696	5,784	6,186	5,625	23,291	5,550	5,400	21,700
% change	-3	-1	-3	-1	+1	+2	-4	0	-3	-7	-7
Pork	3,384	4,061	14,312	3,787	3,726	3,773	4,325	15,611	3,900	3,800	15,700
% change	+5	+12	+2	+7	+12	+11	+7	+9	+3	+2	+1
Lamb & mutton	77	81	309	85	80	80	83	328	88	80	335
% change	-5	-1	-7	+12	+7	+4	+2	+6	+4	0	+2
Veal	99	104	416	97	92	99	110	398	100	90	400
% change	-23	-15	-18	-13	-9	0	+6	-4	+3	-2	+1
Total red meat	9,624	10,096	38,442	9,665	9,682	10,138	10,143	39,628	9,638	9,370	38,135
% change	-1	+4	-2	+2	+5	+5	+1	+3	0	-3	-4
Broilers 2/	3,966	3,895	15,502	3,996	4,079	4,045	4,040	16,160	4,100	4,250	16,850
% change	+10	+9	+9	+7	+4	+2	+4	+4	+3	+4	+4
Turkeys 2/	1,100	1,082	3,717	837	980	1,070	1,050	3,937	850	1,000	4,050
% change	+17	+17	+19	+25	+13	-3	-3	+6	+2	+2	+3
Total poultry 3/	5,195	5,112	19,772	4,986	5,209	5,227	5,215	20,637	5,090	5,395	21,450
% change	+11	+11	+10	+10	+6	+1	+2	+4	+2	+4	+4
Total red meat & poultry 1/	14,819	15,208	58,214	14,651	14,891	15,365	15,358	60,265	14,728	14,765	59,585
% change	+3	+6	+2	+5	+5	+4	+1	+4	+1	-1	-1
Million dozen											
Eggs	1,439	1,479	5,797	1,464	1,415	1,410	1,435	5,724	1,420	1,385	5,625
% change	+2	+2	+2	+2	-2	-2	-3	-1	-3	-2	-2
Dollars per cwt											
Prices											
Choice steers, Omaha, 900-1100 lb	65.04	64.31	64.60	68.28	72.81	66.92	68-70	68-70	67-73	75-81	71-77
Barrows & gilts, 7 mkts	58.97	43.51	51.69	44.74	45.90	44.24	38-40	42-44	41-47	45-51	42-48
Slaugh. lambs, Ch., San Ang.	72.90	68.36	78.08	81.51	69.52	59.02	59-61	66-68	74-80	63-69	63-69
Cents per pound											
Broilers, 12-city avg. 4/	48.7	42.5	47.4	45.4	55.6	66.1	54-56	55-57	50-56	53-59	51-57
Turkeys, NY 5/	56.2	60.6	57.8	48.9	51.4	72.6	79-81	62-64	62-68	60-66	65-71
Cents per dozen											
Eggs New York 6/	63.5	59.2	61.6	55.0	53.3	72.9	70-72	62-64	68-74	63-69	63-69

1/ Forecast. 2/ Federally inspected. 3/ Includes broilers, turkeys, and mature chickens. 4/ Wholesale weighted average. 5/ Wholesale, 8- to 16-pound young hens. 6/ Cartoned, consumer Grade A large, sales to volume buyers.

FACTORS AFFECTING LIVESTOCK AND POULTRY

Record amounts of red meat and poultry continue to be produced, even though the drought of 1988 raised grain prices and created uncertainties for 1989. The recent trend continues of poultry and pork increases offsetting beef declines as cattle inventories begin to stabilize. Production growth for 1988 is being led by an anticipated 9-percent increase in pork. Turkey and broiler production is expected to be up 5 and 4 percent over 1987.

The October estimate is for a 36-percent decrease in production of feed grains and a 19-percent decrease in oil-seed crops due to the drought. While the available supply of these livestock feed ingredients is reduced and prices are higher, supplies will be adequate for domestic use and ex-

ports. Price estimates for 1988/89 corn and soybean meal are \$2.40-2.80 per bushel and \$225-275 per ton, respectively. These compare with \$1.94 per bushel for corn and \$222 per ton for soybean meal in 1987/88. Total red meat and poultry production is expected to decrease around 1 percent in 1989, reflecting higher production costs and downward pressure on returns. Red meat production is expected to decline 4 percent while poultry production is projected to increase by 4 percent.

Strong Economic Growth, but Moderation Likely

Growth in the overall U.S. economy is providing continued demand support for the livestock and poultry sectors. While the October 1987 stock market decline prompted many analysts to predict a recession beginning in 1988,

growth in real Gross National Product will likely exceed 3.5 percent. Real disposable income is likely to grow about 3 percent for the year, paced by gains in wages and salaries. Increases in manufacturing employment have speeded income growth. For 1989, real GNP is likely to grow between 2.5-3.5 percent, with disposable income growing about 2-3 percent. The prime interest rate will be 10-10.5 percent, up slightly from 10 percent in 1988. Inflation in consumer prices, currently running between 4 and 4.5 percent, should continue in that range for 1989.

Turkeys

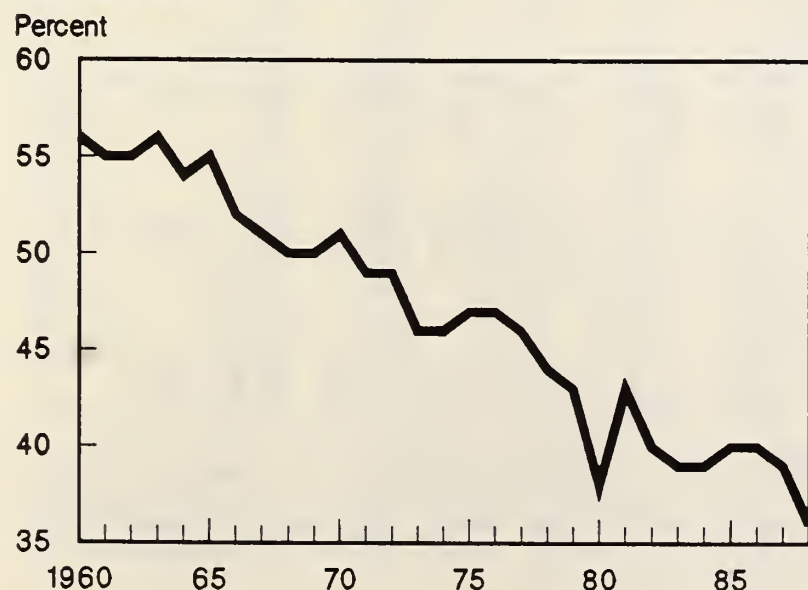
Turkey Prices Higher

Higher retail turkey prices will probably prevail this holiday season even though per capita fourth-quarter disappearance is expected to remain even with last year.

Table 2--Federally inspected turkey slaughter, 1987-88

Year	Number	Average weight	Live-weight	Certified RTC
	Millions	Pounds	- Million Pounds -	
1987				
I	40.9	20.7	846.7	670.1
II	55.4	19.7	1,090.8	864.9
III	69.9	19.9	1,390.7	1,100.1
IV	64.8	21.1	1,365.5	1,081.9
Year	231.1	20.4	4,693.7	3,717.1
1988				
I	50.3	21.0	1,054.0	836.6
II	59.9	20.6	1,235.3	980.3
III	65.8	20.4	1,344.1	1,066.3
IV				
Year				

Fourth-Quarter Turkey Consumption as a Percentage of Total Year



Wholesale turkey prices have been rising since May, increasing the likelihood of higher prices for Thanksgiving specials. The higher prices may have resulted from retailer expectations of tighter holiday supplies because producers placed fewer poults for third- and fourth-quarter slaughter.

Cold Storage Stocks To Be Drawn Down

A substantial drawdown of turkey cold storage stocks must occur for per capita fourth-quarter disappearance to remain even with last year if fourth-quarter production is near expected levels. Stocks for the beginning of the fourth quarter were 571 million pounds, 11 percent below the 1987 record. Carryout stocks are expected to be 150 million pounds, similar to 1985, but 53 percent below the 1987 ending stock.

Per Capita Consumption Becoming More Evenly Distributed

Annual turkey per capita disappearance in 1988 continues its long-term trend towards more even distribution of consumption throughout the year. Although expected fourth-quarter disappearance, at 6 pounds, still accounts for nearly 36 percent of the annual total, the proportion has been decreasing. For example, fourth-quarter disappearance in 1978 accounted for 44 percent of the total. The first three quarters comprised 19, 21, and 24 percent of the total disappearance in 1988 compared with the 10-year earlier distribution of 14, 19, and 24 percent in each quarter. Total per capita disappearance this year will likely be 16.8 pounds, up more than 11 percent from 1987.

Production To Increase 6 Percent in 1988

Production in 1988 will probably rise nearly 6 percent, even though second-half output will likely decrease 2 percent. Federally inspected production during the first three quarters, at 2.88 million pounds, was 9 percent higher, but increases leveled out and then decreased during the third quarter with 3 percent less turkey being produced.

Although only 2 percent more poults were placed for 1988 slaughter, average liveweights rose 3 percent during the first three quarters. Average liveweights have increased at an annual rate of 1 percent since 1960 although they have been levelling off since 1985. Fourth-quarter production is expected to decrease 3 percent while poults placed for slaughter during that period decreased 5 percent.

Net Returns Positive During Third Quarter

Third-quarter net returns for whole turkeys, as calculated by the Economic Research Service (ERS), were 6 cents per pound after a year of being negative. Net returns are expected to continue positive during the fourth quarter, although higher feed prices may squeeze them. Anticipated

higher feed costs and seasonally lower turkey prices during first-half 1989 will cause negative net returns, but rising second-half prices and lower expected feed costs could see higher net returns during the third and fourth quarters.

Production To Rise in 1989

Decreases in turkey production which began in second-half 1988 will probably end in early 1989. Turkey production in 1989 will likely increase 3 percent, nearly the same rate as in 1988. September poult placements for early 1989 slaughter were up 7 percent. Turkey egg sets increased 3 percent on October 1.

Turkey Prices Rise

The wholesale hen turkey price in the East averaged 73 cents per pound during the third quarter compared with 56 cents last year. The October price of 79.5 cents was up slightly from September's. Prices are not expected to rise much during the remainder of the fourth quarter, perhaps an indication that retailers entered the market early expecting tighter supplies during the fourth quarter. The fourth-quarter wholesale price is expected to average 79-81 cents, up from 61 cents last year. A lower stock-to-usage ratio, .38 versus .44 for the fourth quarter last year, might explain a portion of the expected upward price movement during the fourth

Table 3--Turkey hatchery operations, 1986-89 1/

Month	Total turkey placed 2/			Eggs in incubators first of month, changes from previous year		
	1986-87	1987-88	1988-89	1986-87	1987-88	1988-89
	- - Thousands - -			- - - Percent - - -		
Sept.	13,620	15,024	16,028	+18	+16	+9
Oct.	14,135	16,743		+17	+18	+3
Nov.	13,836	17,714		+11	+21	
Dec.	17,705	19,956		+18	+15	
Jan.	21,646	22,307		+27	+9	
Feb.	21,265	23,059		+14	+8	
Mar.	25,401	25,043		+19	+3	
Apr.	26,703	24,647		+17	-2	
May	26,623	25,313		+16	-5	
June	27,265	25,874		+15	-4	
July	25,999	23,851		+19	0	
Aug.	19,889	19,289		+22	-4	

1/ Breakdown by breed not shown to avoid disclosing individual operations.

2/ Excludes exported poults.

Table 4--Turkey prices and price spreads, 1986-88

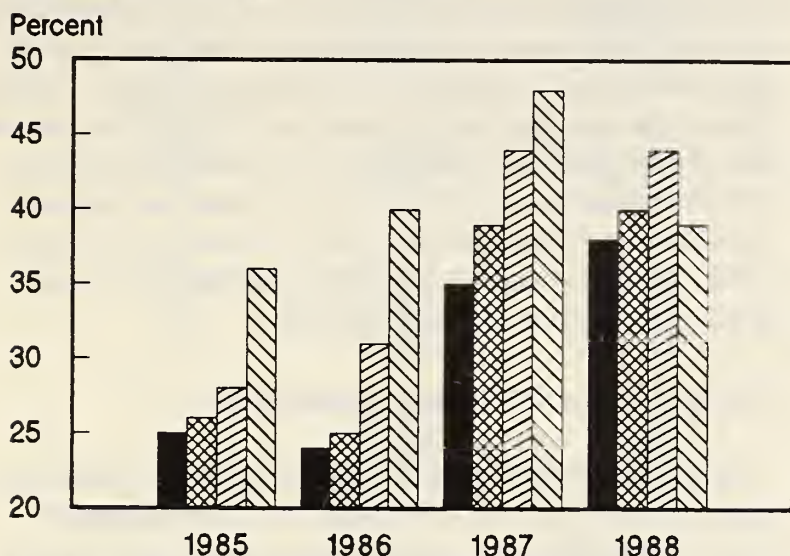
Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Cents per pound													
Farm price 1/													
1986	35.6	36.3	36.9	38.1	40.9	45.9	49.3	50.9	51.4	53.0	51.5	43.0	44.4
1987	35.1	35.8	35.7	36.3	35.5	34.1	33.5	32.1	31.3	30.2	34.0	38.4	34.3
1988	31.8	29.0	28.2	28.4	29.7	31.6	39.4	41.6	45.7				
New York, hens 8-16 lbs 2/													
1986	60.3	61.7	63.9	64.6	67.1	73.8	77.9	80.5	81.2	83.2	80.7	71.1	72.2
1987	55.3	58.5	60.3	58.3	55.3	55.7	56.3	56.1	56.1	54.7	60.7	66.5	57.8
1988	52.8	47.1	47.0	46.9	49.2	57.1	70.8	70.5	76.5	80.0			
4-region average retail price													
1986	106.3	107.8	104.8	104.2	103.4	102.3	105.6	109.5	111.9	112.9	108.1	102.1	106.6
1987	103.6	103.2	103.0	100.4	102.8	105.1	105.8	105.1	103.3	102.6	90.0	89.3	101.2
1988	93.1	92.9	91.0	89.4	92.9	92.9	96.0	99.5	100.6				
Price spreads													
Retail-to-consumer													
1986	33.7	36.7	32.5	31.3	27.1	19.0	19.3	19.5	21.7	20.2	16.2	21.8	24.9
1987	39.8	37.4	35.4	33.4	37.3	40.1	41.1	41.8	39.0	38.3	22.0	13.5	34.9
1988	29.8	35.0	33.4	33.0	35.1	24.6	23.7	21.0	17.3				
1982-84 = 100													
Consumer pr. index 3/													
1986	111.6	112.5	111.1	109.7	110.5	109.8	110.9	111.7	114.5	117.1	113.9	112.3	112.1
1987	113.3	111.6	112.0	109.6	111.6	111.8	112.1	111.6	109.4	109.2	103.5	103.9	110.0
1988	107.7	107.2	107.2	107.5	108.3	109.3	109.8	112.4	114.2				

1/ Live weight. 2/ Wholesale, ready-to-cook. 3/ Other poultry CPI.

quarter from a year earlier. The 1988 annual price will likely be 62-64 cents.

Turkey prices are expected to fall seasonally in first-quarter 1989 to 62-68 cents, but remain substantially above

Turkey Stocks-to-Usage Ratio, Quarterly Data



Beginning of quarter cold storage stock divided by disappearance.

Table 5--Turkeys: Number raised, 1983-87 1/

Total all breeds					
States	1984	1985	1986	1987	1988
1,000 head					
Ark.	14,366	16,000	16,500	18,000	18,500
Calif.	19,730	20,500	21,900	25,500	27,200
Colo.	2/	2/	2/	2/	2/
Conn.	31	35	40	30	30
Del.	64	11	3/	3/	3/
Ga.	2,582	2,631	2,426	2,432	2,387
Ill.	290	213	347	698	650
Ind.	6,310	6,941	9,370	13,000	13,800
Iowa	5,800	6,300	7,000	8,500	8,000
Kans.	100	275	104	193	192
Md. 3/	100	129	3/ 125	133	135
Mass.	152	156	145	140	140
Mich.	2,100	2,300	2,700	3,000	3,000
Minn.	28,500	30,400	34,200	40,500	39,000
Mo.	12,000	12,500	13,500	15,500	16,800
Nebr.	639	850	1,437	1,942	1,738
N. H.	27	28	26	26	26
N. J.	88	88	100	115	100
N. Y.	329	314	343	437	360
N. C.	30,400	31,850	39,100	48,350	47,100
N. Dak.	820	900	1,000	1,240	1,200
Ohio	2,800	2,800	3,100	3,400	3,400
Okla.	2/	2/	2/	2/	2/
Oreg.	900	1,300	1,540	1,830	1,850
Pa.	6,100	7,100	7,800	8,000	7,754
S. C.	2,194	2,194	3,900	3,950	4,650
S. Dak.	1,522	1,723	1,968	2,376	2,275
Tex.	2/	2/	2/	2/	2/
Utah	2,387	3,082	3,390	3,731	4,037
Va.	10,795	13,066	14,307	16,200	18,273
W. Va.	2,300	2,400	2,220	2,400	2,600
Wis.	6,120	6,150	6,128	5,450	5,550
Oth.	11,700	12,400	12,500	13,316	15,490
U.S.	171,246	185,292	207,216	240,389	246,237

1/ 1986 revised. 1987 preliminary based on turkeys placed September 1, 1986 through August 31, 1987. Excludes young turkeys lost. 2/ Colo., Okla., and Tex. combined to avoid disclosing individual operations. 3/ Maryland and Delaware combined.

the 49 cents in 1988. The second-quarter 1989 price will likely be 60-66 cents, well above the 51 cents in 1988. The annual price in 1989 might average 68-74 cents per pound.

Broilers

Broiler Production Up

The broiler industry continues to give mixed signals on production plans for 1989 after this summer's net returns moved up substantially from 1987. However, the period of higher net returns was overshadowed by sharply higher feed prices which clouded expectations of future profitability. With the completion of the 1988 grain harvest, industry plans will become clearer. Examples of uncertainty are reflected in changes in the broiler egg sets and chick placements, hatching egg flock, and pullet placements to the broiler hatchery supply flock during the last few months. All three indicators have shown erratic month-to-month changes in recent months.

Production Increases Slowed in 1988

Following a period of unsatisfactory net returns in late 1987 and early 1988, the industry began to slow production increases. After first-quarter production increased 7 percent from a year earlier, output grew only 2 percent during the third quarter. Federally inspected broiler meat production during January-September, at 12.11 million pounds, increased 4 percent.

Fourth-Quarter Production Likely To Increase

Fourth-quarter production will likely increase around 4 percent as indicated by the August and September broiler chick hatch and 15-State weekly chick placements during October. Average broiler liveweights at slaughter have been only marginally above last year. Total broiler meat produc-

Table 6--Federally inspected young chicken slaughter, 1987-88

Year	Number	Average weight	Live-weight	Certi-fied RTC

	Millions	Pounds	- Million Pounds -	
1987				
I	1,188	4.33	5,149	3,735
II	1,252	4.29	5,365	3,907
III	1,302	4.20	5,470	3,965
IV	1,230	4.35	5,355	3,895
Year	4,971	4.29	21,333	15,498
1988				
I	1,267	4.35	5,511	3,996
II	1,303	4.30	5,611	4,079
III 1/	1,316	4.20	5,529	4,633
IV				
Year				

1/Preliminary				

tion in 1988 is expected to increase 4 percent to 16.3 billion pounds.

Two aberrations in short-run broiler production indicators should be noted. Increases in weekly chick placements have been running 1-2 percent higher than corresponding egg sets, even though broiler egg hatchability has not changed greatly from last year. Higher domestic use of chicks hatched is thought to be the main factor. Secondly, weekly slaughter estimates during October have only risen 2 percent from year-earlier figures although the August chick hatch was 5 percent above. Shorter growout periods may make monthly hatch data less compatible with the 2-month lag currently used to predict slaughter.

Broiler Returns Positive Since March

Broiler net returns, as calculated by ERS, became positive in March and were 16 cents per pound during the third quarter. Net returns are expected to narrow substantially as seasonally declining broiler prices and increasing feed costs begin to squeeze profitability during fourth-quarter 1988 and first-quarter 1989. Seasonally rising broiler prices and lower expected grain prices will probably keep net returns positive during the rest of 1989.

Broiler Production To Rise in 1989

Broiler production in 1989 is projected to rise 4 percent because of higher net returns in the summer of 1988, and expectations of positive net returns during most of 1989. Most of the capacity indicators, however, belie this indicated increase in production. The hatching egg flock, a rough indicator of the quantity of broiler hens available to lay eggs, has fluctuated considerably. On July 1, the flock was up 4 percent, a month later it was up less than 1 percent. On Oc-

tober 1, the hatching egg flock was 1 percent larger, indicating beginning 1989 slaughter may increase similarly.

The broiler hatchery supply flock is a longer-term estimator of future broiler-hen egg-laying capacity. It is comprised of hens 7-14 months of age. Pullets placed in September will enter the flock in April and offspring will be slaughtered approximately 2 1/2 months later. Although this estimator only roughly portrays actual broiler hatching-egg type hen numbers in April, it does indicate direction. The estimated flock in April will decrease only slightly from a year earlier after placements increased 15 percent in September. However, placements to this flock have been inconsistent, decreasing one month and increasing the next, since early 1988. These fluctuations continue to emphasize the uncertainty of production increases in 1989.

Broiler Prices Decrease Seasonally

Wholesale broiler prices have been decreasing seasonally after a strong summer. Third-quarter, 12-city composite prices averaged 66 cents per pound compared with 49 cents a year earlier. The wholesale price in October decreased 5 cents to 58 cents from September. Summer vacations, summer barbecuing, and heavy promotions by retailers have ended and these were the main factors responsible for the price decline. Fourth-quarter prices are expected to average 54-56 cents after the seasonal decline, but be substantially above the 43 cents of last year. The 1988 annual price is expected to be 55-57 cents, up from 47 cents in 1987.

Wholesale broiler prices in 1989 may average 51-57 cents. First-quarter prices are expected to be 50-56 cents, above the 46 cents in 1988. Prices will rise seasonally to 53-59 cents in the second quarter, near the 1988 price.

Table 7--Broiler chicks hatched and pullet chicks placed in hatchery supply flocks, 1986-88

Month	Broiler-type chicks			Pullet chicks placed in broiler hatchery supply flocks						
				Monthly placements			Cumulative placements 7-14 months earlier			
	1986	1987	1988	1986	1987	1988	1986	1987	1988	1989
Thousands										
January	409,336	439,442	464,527	3,395	4,077	3,389	27,483	29,039	33,028	31,691
February	376,092	405,252	431,724	3,420	3,699	4,038	27,940	29,427	33,254	31,539
March	432,871	456,081	482,769	3,675	4,111	4,538	27,374	29,523	32,805	31,470
April	424,078	455,679	470,154	4,062	4,713	3,831	27,156	29,722	32,185	32,043
May	438,623	473,827	485,489	3,938	4,055	4,197	27,321	30,148	32,612	
June	428,691	461,421	472,549	3,515	4,181	3,818	27,002	30,242	32,264	
July	429,883	463,321	471,469	3,672	3,995	3,611	26,868	30,603	31,668	
August	415,991	455,676	478,747	3,846	3,974	4,048	26,591	30,742	31,002	
September	401,676	433,769	454,308	3,594	3,457	3,962	26,849	30,926	30,859	
October	416,193	441,893		3,846	4,126		27,124	31,365	31,402	
November	402,582	423,147		3,769	3,763		28,021	32,232	31,259	
December	437,287	469,720		4,423	4,117		28,706	32,693	31,999	

Table 8--Broilers: Eggs set and chicks placed weekly in 15 commercial States, 1987-88 1/

Period 2/ Month and day 2/	Eggs set			Chicks placed		
	1987	1988	Percent of previous year	1987	1988	Percent of previous year
	- - - Thousands - - -		Percent	- - - Thousands - - -		Percent
January						
2	114,888	112,773	105	90,631	95,420	105
9	114,902	118,893	103	90,096	96,666	107
16	115,567	117,603	102	89,433	94,999	106
23	115,321	115,673	100	90,742	94,742	104
30	115,823	115,911	100	90,176	95,635	106
February						
6	114,628	119,949	105	90,398	94,688	105
13	114,749	120,719	105	90,733	92,550	102
20	118,045	121,833	103	91,176	91,535	100
27	119,362	122,959	103	90,653	95,654	106
March						
5	118,761	122,303	103	90,690	96,368	106
12	119,208	122,207	103	92,756	97,797	105
19	118,550	121,908	102	94,339	98,777	105
26	121,231	120,322	99	94,050	98,422	105
April						
2	121,931	122,731	101	94,584	98,124	104
9	122,663	121,267	99	93,129	98,925	106
16	121,567	122,374	101	95,604	96,595	100
23	121,048	121,169	100	97,088	98,508	106
30	120,326	120,065	100	96,876	98,339	101
May						
7	121,948	121,387	98	95,972	98,803	103
14	121,996	122,204	100	95,409	98,532	103
21	121,452	121,791	100	95,573	96,738	100
28	123,382	122,978	98	96,948	97,640	101
June						
4	122,440	122,655	100	96,470	98,263	102
11	122,807	123,938	101	95,722	98,185	103
18	123,003	122,905	98	97,270	99,444	102
25	119,513	121,914	102	98,118	98,505	100
July						
2	113,208	113,790	101	97,042	99,971	103
9	119,775	120,312	100	96,978	99,472	103
16	117,942	121,040	103	94,843	97,864	103
23	117,671	120,706	103	89,232	89,329	100
30	118,706	121,527	102	94,929	96,217	100
August						
6	118,449	120,763	102	92,830	96,623	104
13	117,998	122,485	104	93,339	96,765	104
20	117,671	121,983	104	93,624	97,185	104
27	118,519	121,538	103	93,001	96,738	104
September						
3	116,772	118,652	102	91,465	98,033	107
10	112,431	114,912	102	92,125	98,007	106
17	109,677	109,599	98	93,380	96,383	103
24	113,743	115,948	102	91,209	94,503	104
October						
1	118,781	120,351	100	88,489	92,129	104
8	114,727	117,479	102	85,925	85,099	98
15	105,997	112,448	106	89,722	92,614	103
22	105,676	108,819	103	93,718	96,017	102
29	116,523	114,539	98	92,143	94,684	103
November						
5						
12						
19						
26						
December						
3						
10						
17						
24						

1/ 15 States: Ala., Ark., Calif., Del., Fla., Ga., Md., Miss., N.C., Pa., S.C., Tenn., Tex., and Va., W. Va.

2/ Weeks in 1988 and corresponding weeks in 1987.

Table 9--Estimated costs and returns, 1987-88 1/

Year	Production Costs		Wholesale		Net returns
	Feed	Total	Total costs 2/	Price 3/	

Market eggs (cts/doz)					
1987					
I	21.8	40.0	60.5	66.4	5.9
II	23.1	41.3	61.8	58.9	-2.9
III	23.9	42.1	62.6	64.1	1.5
IV	24.5	42.7	63.2	59.7	-3.5
Year 4/	23.3	41.5	62.0	62.3	0.2
1988					
I	26.1	44.3	64.8	56.8	-8.0
II	27.1	45.3	65.8	54.6	-11.2
III 5/	34.1	52.3	72.8	73.5	.7
Broilers (cts/lb)					
1987					
I	12.7	20.7	42.0	50.0	-8.0
II	12.8	20.8	42.1	48.1	6.0
III	14.3	22.3	44.1	48.8	4.7
IV	13.7	21.7	43.4	42.5	-0.8
Year 4/	13.4	21.4	42.9	47.4	4.4
1988					
I	15.4	23.4	45.6	45.5	-0.1
II	15.3	23.3	45.5	55.7	10.2
III 5/	19.0	27.0	50.3	66.1	15.7
Turkeys (cts/lb)					
1987					
I	18.4	32.1	56.5	57.0	0.5
II	18.2	31.9	56.1	58.7	2.6
III	20.4	34.1	58.9	55.0	-4.0
IV	19.8	33.5	58.2	57.6	-0.8
Year 4/	19.4	33.1	57.6	57.0	-0.7
1988					
I	21.9	35.6	60.8	48.1	-12.8
II	22.0	35.7	60.9	50.8	-10.1
III 5/	25.5	39.2	65.3	71.6	6.3

1/ Costs and prices are weighted by monthly production. 2/ Based on farm cost converted to wholesale market value. 3/ Wholesale prices used are the 12-metro area egg price, 12-city weighted average broiler price, and a weighted average of 8-16 lb. young hens and 14-22 lb. toms in Central, Western, and Eastern Regions. 4/ Weighted average. 5/ Preliminary.

Eggs

Total Egg Production Expected Down

For 1988, total egg production (table and hatching eggs) is projected to decline by more than 1 percent. First-half 1988 production was very near a year-earlier, but second-half output is forecast at between 2 and 3 percent below second-half 1987. Lower second-half production is expected because the total laying flock projected for that period is significantly smaller. The average table egg-type flock during September was 3.6 percent below a year earlier, while the hatching-type flock was 0.5 percent above the previous year's figure. However, since the table-egg-type layers represent more than 85 percent of the total flock, the total laying flock was down 3.1 percent in September.

The 1989 projection calls for a year-on-year decline of nearly 2 percent. This forecast of a continued decline in production is based upon the expectation of a seasonally smaller laying flock through most of that year. The egg price and production cost forecasts for 1989 do not project significant positive net returns until the third quarter of the year. Since 1988 was a difficult year for the industry, the production forecast for 1989 assumes a measured, or moderated, response to higher wholesale prices for eggs. For this reason, the first three quarters of 1989 are projected to show significant year-on-year production declines, while the fourth quarter may equal a year-earlier.

Table Egg Production Lower

During September, the table-egg-type laying flock was down 3.6 percent from a year earlier, the smallest September flock since data collection began in 1980. On October 1, the flock was 3.4 percent below a year-earlier. The flock is expected to increase in size over the near term, following the usual seasonal pattern of lows in June-July and highs in November-December, although it will remain well below year-earlier levels for the next several quarters. Table laying-type eggs set and chicks placed, key indicators of changes in future flock numbers, have been running well below a year-earlier. Egg-type chicks hatched during August were only 79 percent of year earlier, while the September figure was 96 percent. The number of eggs in incubators on October 1 was 87 percent of the year earlier figure. Given these factors, seasonal comparisons of the flock will continue to find future months running well below those of last year. Table-egg producers appear to have taken actions to obtain modest short-term production increases, while resisting increases in their longer-term productive capacity. These actions strongly suggest producers had viewed the July-September price strength as temporary.

Higher egg prices during the third quarter led some producers to adjust accordingly. One reaction was to slow the rate of slaughter of spent hens. Light-type hen slaughter during July and August was down sharply from earlier months of this year, and 25 percent below the same period last year. The proportion of the flock which had completed a molt in September was 22.4 percent compared to last year's 21.3 percent. This, along with the reduced slaughter, suggest that some of the older hens are being retained. Recent egg-type chick hatch and eggs in incubators data demonstrate a reluctance of producers to expand the table egg-type laying flock. For the January through September 1988 period, egg-type hatch is nearly 16 percent below a year-earlier. Comparing the July, August, September monthly hatch with numbers a year-earlier finds the current year lagging 26, 21, and 13 percent, respectively. The year-on-year comparisons of egg-type eggs in incubators on the first of the month for July through October were down 23, 24, 10, and 13 percent, respectively. These data, hatch numbers and eggs in in-

Table 10--Young chicken prices and price spreads, 1986-88

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
Cents per pound													
Farm price 1/													
1986	30.6	29.2	29.7	29.5	32.2	35.4	42.7	43.9	36.5	39.3	34.9	30.4	34.5
1987	31.0	30.0	29.0	29.2	29.9	27.6	27.6	31.7	27.8	25.1	26.3	24.6	28.3
1988	27.1	25.7	27.5	28.0	33.5	36.7	42.1	41.9	39.2	37.5			
Wholesale RTC 12-city avg. 2/													
1986	51.7	49.0	50.3	50.0	54.6	58.3	69.1	69.7	61.0	61.6	57.5	50.0	56.9
1987	51.8	49.8	48.5	48.6	50.5	45.5	47.0	52.6	46.4	43.2	44.6	39.8	47.4
1988	43.9	44.9	48.4	48.7	56.3	61.5	66.5	68.9	62.8	57.7			
U.S. avg. retail price													
1986	76.6	77.1	76.7	75.2	76.9	79.5	88.9	95.8	91.0	90.0	87.8	86.5	83.5
1987	82.1	83.2	80.4	79.2	78.2	77.1	75.5	78.5	79.3	79.1	75.6	73.6	78.5
1988	74.0	74.5	75.3	76.0	79.6	86.8	93.7	96.1	97.5				
Price spreads Retail-to-cons.													
1986	19.5	21.8	21.0	19.2	16.3	15.5	16.4	20.0	21.6	20.5	22.6	30.0	20.4
1987	24.3	26.8	25.2	25.3	21.2	18.7	21.2	20.2	33.1	30.2	25.2	26.1	24.8
1988	23.7	24.4	21.6	20.5	16.5	18.0	22.8	21.9	29.9				
1982-84 = 100													
Retail pr. index Wh. chickens													
1986	105.0	105.6	106.0	103.9	106.1	109.8	121.9	132.3	125.5	124.9	123.0	121.0	115.4
1987	119.5	118.7	115.2	113.1	112.9	111.6	109.9	113.9	114.6	113.0	109.2	107.7	113.3
1988	107.9	109.5	110.3	111.6	117.4	125.9	137.4	140.1	142.0				

1/ Live weight. 2/ 12-city composite weighted average.

Table 11--Layers on farms and eggs produced, 1987-88 1/

Quar- ters	Number of layers		Eggs per layer		Eggs produced	
	1987	1988	1987	1988	1987	1988
- Millions - - Number - Million dozen						
I	282	283	61.0	62.2	1,434.6	1,467.1
II	280	275	63.1	63.4	1,472.1	1,453.1
III	277	269	62.1	62.9	1,432.7	1,408.0
IV	283		61.6		1,451.7	
Annual	280		247.8		5,791.0	

1/ Marketing year beginning December 1.

cubators, highlight the apparent plans of producers to maintain a smaller flock.

Egg Consumption Expected To Fall

For 1988, per capita consumption of eggs in all forms is expected to total 242, a decline of about 7 eggs. The reasons for a continued decline are well known and include a general move toward lighter or no breakfasts and health concerns. The 1989 forecast calls for another decline, with per capita consumption of about 237 eggs.

Egg Products Production Up

During the January-August 1988 period, nearly 6 percent more shell eggs were used in producing liquid, frozen, and dried egg products. Liquid egg production for immediate

consumption was up nearly 12 percent in the 8-month period. Over the same period, output of frozen eggs rose 5 percent, while dried egg output did not change.

Egg Prices Volatile

Wholesale prices for cartoned Grade A large eggs in New York city have continued to fluctuate significantly for the past several months. Daily prices have exhibited a strong upward trend from mid-June to late-July, reaching an 18-month high of 77.5 cents per dozen. After a subsequent decline through August, prices rallied above the mid-summer high, reaching about 80 cents in late-September. In mid-October, prices stabilized in the mid-60-cent area. Third-quarter prices averaged 73 cents per dozen. During the fourth quarter, prices are expected to strengthen from mid-to late-October levels, and average between 70 and 72 cents.

For 1989, wholesale prices in New York city are expected to average 69-75 cents per dozen, nearly 10 cents above the projected 1988 level. Quarterly prices are expected to average about 71, to 66, and 72 cents per dozen in the first, second, and third quarters, respectively. They are projected to strengthen to the upper-70-cent area during the fourth quarter.

Estimated Net Returns Expected Negative in Fourth Quarter

Estimated net returns to egg producers were about 4.4 cents per dozen in September, the first month of significant

Table 12--Force moltings and light-type hen slaughter, 1986-88

Month	Force molted layers 1/						Light-type hens slaughtered under Federal inspection 2/ (Number of Head)		
	Being molted			Molt completed			1986	1987	1988
	1986	1987	1988	1986	1987	1988			
	- - - Percent - - -						- - - Thousands - - -		
January	3.6	4.2	3.8	25.2	20.9	20.9	13,890	13,004	13,587
February	4.8	4.6	5.0	23.5	19.1	20.4	12,221	13,196	13,993
March	4.2	3.8	3.8	24.4	20.1	20.6	14,201	13,451	14,466
April	2.8	2.8	3.9	24.0	19.6	19.4	14,761	14,428	14,364
May	5.4	5.4	5.9	22.1	18.8	18.7	13,277	12,747	13,948
June	4.4	6.4	7.6	22.8	18.5	20.0	14,875	13,933	13,122
July	5.4	4.7	6.0	21.9	20.5	21.3	12,280	12,481	8,255
August	3.9	4.9	4.7	21.4	21.0	22.1	11,682	12,518	10,478
September	3.9	5.3	4.3	20.8	21.7	22.4	11,185	10,814	
October	4.7	4.9	4.5	20.2	21.3	22.4	12,450	12,055	
November	4.2	4.2		20.7	21.4		10,019	11,410	
December	2.5	3.4		22.0	22.4		12,975	15,957	

1/ Percent of hens and pullets of laying age in 15 selected States. 2/ Revisions include data from late reports or other corrections developed by the Food Safety and Inspection Service.

U.S. Table-Type Layer Flock

Million hens

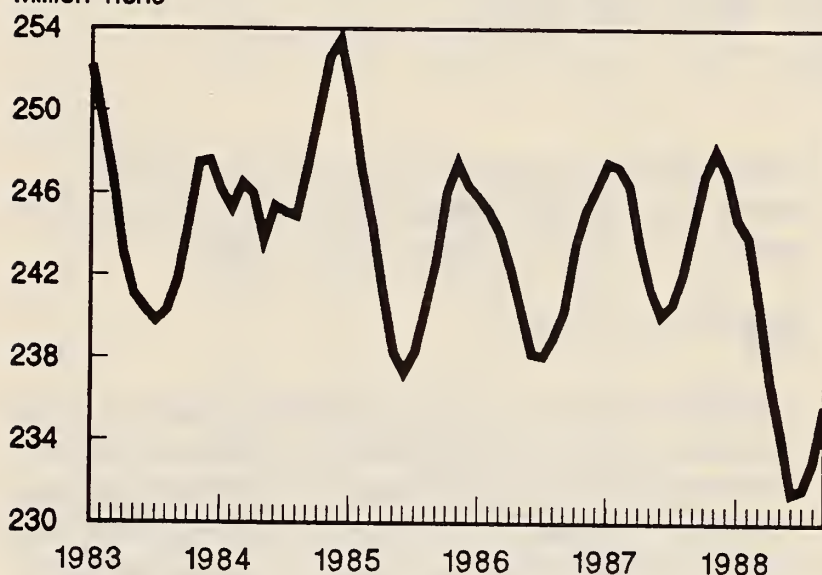


Table 13--Egg-type chick hatchery operations, 1986-1988

Month	Hatch			Eggs in incubators first of month, changes from previous year		
	1986	1987	1988	1986	1987	1988
	- - Thousands - -			- - Percent - -		
Jan.	34,538	34,156	29,472	13	5	-4
Feb.	34,826	35,815	28,468	25	4	-24
Mar.	38,523	41,708	34,743	11	5	-17
Apr.	42,359	42,356	35,051	5	-2	-17
May	42,465	40,858	35,824	8	1	-16
June	37,253	37,256	32,987	6	1	-7
July	33,575	33,375	24,806	10	-4	-23
Aug.	33,382	34,667	27,270	4	8	-24
Sept.	32,538	31,800	30,556	2	4	-10
Oct.	32,444	33,959		-4	9	-13
Nov.	27,456	30,593		-16	10	
Dec.	33,262	31,242		-3	-7	

Table 14--Shell eggs broken and egg products produced under Federal inspection, 1987-88

Period	Shell eggs broken	Egg products produced 1/			
		Liquid 2/	Frozen	Dried	
	Thou. doz.	Thou. lbs.	Thou. lbs.	Thou. lbs.	
1987					
January	73,724	23,567	29,042	8,981	
February	71,122	22,371	27,250	8,159	
March	80,467	26,343	31,909	8,725	
April	74,135	23,231	27,750	8,428	
May	77,451	23,121	28,307	9,242	
June	85,391	27,478	27,781	9,788	
July	86,461	23,730	30,972	9,622	
August	79,928	25,061	27,454	8,356	
September	78,419	27,371	28,455	7,157	
October	81,959	28,644	34,433	8,504	
November	73,557	22,542	29,511	8,037	
December	79,469	21,367	34,530	9,337	
Jan.-Sept.	705,098	222,273	258,920	78,485	
1988					
January	74,629	24,055	26,050	8,973	
February	75,240	24,470	26,412	8,649	
March	81,978	27,153	28,412	7,712	
April	78,725	26,516	28,209	9,487	
May	88,484	29,635	33,072	10,226	
June	93,003	30,076	37,251	9,034	
July	80,170	25,572	30,347	7,903	
August	90,302	30,412	31,675	9,178	
September	79,125	27,888	30,565	7,327	
October					
November					
December					
Jan.-Sept.	741,656	245,777	271,993	78,489	
Jan.-Sept. Pct. Chg.					
Yr-on-Yr	+5.2	+10.6	+5.0	0.0	

1/ Includes ingredients added. 2/ Liquid egg products produced for immediate consumption.

Table 15--Egg prices and price spreads, 1986-88

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Cents per dozen													
Farm price 1/													
1986	58.3	54.0	61.4	49.2	48.8	42.1	51.9	55.3	55.4	50.3	60.0	57.9	53.7
1987	51.7	50.1	46.0	45.8	39.5	40.3	40.8	40.5	49.7	40.9	45.4	38.8	44.1
1988	39.7	37.6	41.2	36.0	32.9	36.5	49.4	50.4	56.4				
New York (cartoned) 2/ Grade A, large													
1986	73.3	68.3	80.8	65.7	65.2	59.2	73.0	72.8	72.6	69.6	77.2	75.5	71.1
1987	67.1	65.2	62.0	62.4	55.6	58.7	59.1	63.2	68.3	60.2	60.5	56.9	61.6
1988	55.9	52.7	56.4	52.1	50.9	56.8	73.7	69.5	75.7	66.0			
4-region average, Grade A, large Retail price													
1986	90.1	86.6	88.7	89.0	82.0	79.5	83.3	91.3	86.8	85.5	89.7	91.0	87.0
1987	86.2	82.3	80.0	78.6	76.3	71.1	76.3	73.0	83.7	77.8	80.5	73.1	78.3
1988	76.0	71.8	74.0	71.9	67.8	70.5	80.3	90.9	87.4				
Price spreads Retail-to-consumer													
1986	14.9	17.2	10.0	21.9	16.8	20.5	12.1	18.8	14.3	15.4	11.7	14.4	15.7
1987	17.4	14.5	16.5	15.3	20.8	12.7	16.4	15.7	13.6	18.4	18.4	15.4	16.3
1988	19.0	18.2	14.9	20.0	16.5	13.0	7.0	20.5	11.2				
1982-84 = 100													
Consumer price index													
1986	101.5	97.4	99.6	98.5	90.7	87.1	91.4	100.7	97.1	97.2	102.2	103.7	97.3
1987	100.8	97.8	93.9	91.1	88.5	84.1	87.8	85.8	97.6	91.4	93.9	85.5	91.5
1988	90.1	85.5	87.9	85.0	81.8	83.6	95.1	104.2	103.1				

1/ Market (table) eggs including eggs sold retail by the producer; data not available prior to 1982.

2/ Price to volume buyers.

Table 16--Egg supply and utilization (population includes military) 1/

Year	Pro- duction	Beginning stocks	Breaking egg use	Imports 2/	Total supply	Exports	Ship- ments	Hatching egg use 3/	Ending stocks	Consumption	
										Total	Per capita
Total Eggs											
Million dozen											
1986											
I	1,420.6	10.7	---	3.6	1,434.9	26.0	7.5	139.2	8.7	1,253.6	62.5
II	1,417.8	8.7	---	4.0	1,430.5	22.4	5.8	145.1	11.9	1,245.4	62.0
III	1,410.5	11.9	---	2.2	1,424.6	29.0	7.5	141.4	11.5	1,235.2	61.3
IV	1,456.1	11.5	---	3.9	1,471.4	24.2	7.2	141.2	10.4	1,288.4	63.8
Year	5,704.9	10.7	---	13.7	5,729.3	101.6	28.0	566.8	10.4	5,022.5	249.5
1987											
I	1,440.4	10.4	---	2.6	1,453.4	23.6	7.3	147.6	11.9	1,263.0	62.4
II	1,438.4	11.9	---	1.2	1,451.6	23.7	4.8	154.2	13.8	1,255.0	61.9
III	1,438.5	13.8	---	1.0	1,453.3	21.5	6.1	147.8	13.5	1,264.3	62.2
IV	1,479.2	13.5	---	0.8	1,493.4	42.4	6.9	146.4	14.4	1,283.3	63.0
Year	5,796.5	10.4	---	5.6	5,812.5	111.2	25.1	596.0	14.4	5,065.7	249.4
1988 4/											
I	1,463.6	14.4	---	.9	1,478.8	33.7	6.0	150.2	12.7	1,276.3	62.4
II	1,414.9	12.7	---	.7	1,428.3	34.1	6.4	153.5	20.1	1,214.1	59.3
III	1,410.3	20.1	---					150.5	17.7		
IV											
Shell Eggs											
1986											
I	1,420.6	0.7	187.8	3.0	1,236.5	5.7	7.5	139.2	0.6	1,083.6	54.0
II	1,417.8	0.6	227.0	3.3	1,194.7	6.9	5.8	145.1	1.1	1,035.8	51.5
III	1,410.5	1.1	225.1	1.2	1,187.7	6.4	7.5	141.4	0.9	1,031.6	51.2
IV	1,456.1	0.9	217.6	3.4	1,242.7	6.9	7.2	141.2	0.7	1,086.7	53.8
Year	5,704.9	0.7	857.4	11.0	4,859.2	25.9	28.0	566.8	0.7	4,237.8	210.5
1987											
I	1,440.4	0.7	225.3	1.9	1,217.7	7.1	7.3	147.6	1.0	1,054.9	52.1
II	1,438.4	1.0	237.0	0.1	1,202.5	8.9	4.8	154.2	1.0	1,033.6	51.0
III	1,438.5	1.0	242.8	0.1	1,196.8	8.3	6.1	147.8	1.0	1,033.6	50.8
IV	1,479.2	1.0	235.0	0.1	1,245.3	24.3	6.9	146.4	1.3	1,066.4	52.3
Year	5,796.5	0.7	940.1	2.3	4,859.4	48.6	25.1	596.0	1.3	4,188.4	206.2
1988 4/											
I	1,463.6	1.3	231.8	0.1	1,233.1	16.0	6.0	150.2	2.0	1,058.9	51.8
II	1,414.9	2.0	260.2	0.1	1,156.9	12.0	6.4	153.5	0.9	984.0	48.0
III	1,410.3	0.9						150.5	0.7		
IV											

1/ Totals may not add due to rounding. 2/ Shell eggs and approximate shell-egg equivalent of egg products. 3/ Hatching for 1986-present calculated by the new method. 4/ Preliminary.

--- Not applicable for total egg supply and utilization.

positive returns in a year. The reason for the positive figure was the combination of a sharp run-up in egg prices during the month coupled with a small decrease in estimated production costs.

The outlook for the fourth quarter is for negative net returns, as wholesale prices are projected to decline while production costs rise. A tentative forecast puts fourth-quarter net returns at a negative 1-2 cents per dozen. For 1989, net returns are projected to be below breakeven during the first half. For the second half, forecasted lower feed costs coupled with stronger egg prices result in projected net returns averaging nearly 10 cents per dozen during the period.

U.S. Poultry Trade

Broiler Export Volume Down Slightly But Value Steady

Broiler exports in January-August 1988 totaled 484.3 million pounds, down 1.5 percent from a year earlier. Value was unchanged at \$232 million. The decline occurred despite a 45-percent increase in exports to Japan compared with a year ago, and a 160-percent jump in exports to Mexico. The decline was due primarily to much lower exports to Iraq and Egypt under the Export Enhancement Program. Exports to Iraq were only 8 million pounds and to Egypt 17 million compared to about 80 million and 47 million pounds during January-August a year ago. These countries are importing less this year because of programs to increase their domestic production. Also, higher prices this year have weakened the United States' competitive position, particularly in whole bird markets in the Middle East. Broiler meat prices in the EC, an important competitor in this region, have generally not increased this year while the EC export refund rate at the end of September was \$610 per metric ton, 45 percent above a year ago. U.S. broiler exports to Saudi Arabia were only 2.7 million pounds, down 25 percent from a year earlier. However, exports under the EEP to the countries of the Persian Gulf are up 17 percent, at about 4 million pounds, primarily due to sales of whole chicken.

Exports to Mexico through August of this year were exceeded only by those to Japan and Hong Kong. Mexico has eased trade restrictions and tariffs and is using imported food supplies as part of an economic program to reduce inflation. The program has held the peso steady to the dollar since early in the year. A potential has developed for increased broiler exports to Jamaica as a result of Hurricane Gilbert's severe damage to their poultry industry in mid-September.

Parts exports have increased 5 percent, and made up about 86 percent of total U.S. broiler exports compared to 81 percent in January-August a year ago. Parts exports to Japan, however, made up 77 percent compared to 86 percent

Table 17--U.S. broiler exports to major importers, January-August, 1987-1988

Country or area	1987	1988
1000 lb		
Japan	117,362	170,678
Hong Kong	73,319	67,254
Mexico	16,520	42,880
Singapore	33,446	39,008
Canada	32,212	30,999
Jamaica	28,532	29,785
Egypt	46,398	17,109
Spain	3,609	8,104
Netherlands Antilles	10,648	8,034
Iraq	80,250	7,693
Other	49,364	62,765
Grand Total	491,660	484,309

Table 18--U.S. mature chicken exports to major importers, January-August, 1987-1988

Country or area	1987	1988
1000 lb		
Mexico	2,414	4,220
Japan	570	2,435
Kuwait	15	1,450
Canada	3,788	1,278
Egypt	1,185	646
Singapore	46	493
United Arab Emirates	46	489
Hong Kong	440	467
Jamaica	1,883	446
Dominican Republic	0	402
Other	1,770	2,497
Grand Total	12,157	14,823

a year ago. Average export unit values of whole birds to Japan are relatively lower this year compared to parts. Average unit values for whole birds to Japan through August were down 17 percent from last year, to 54 cents per pound, while average parts values at 50 cents were down only 4 percent.

With continued slow EEP exports expected, and more intense price competition, exports during 1988 are estimated to be slightly lower compared to the record year of 1987. Strong exports to Japan, other Far East markets, and to Mexico should about offset the reductions to Iraq and Egypt.

During 1989, U.S. prices are expected to remain relatively high, with exports slightly below 1988. Exports under EEP are likely to remain low unless the U.S. bonuses are increased or the EC subsidies reduced. While sales to the Far East are expected to continue strong in 1989, those to Mexico could drop.

Turkey Exports Continue Strong

U.S. turkey exports in January-August 1988 were 34.5 million pounds, up 108 percent from a year earlier and equivalent to 1.3 percent of production. With unit export values being slightly lower, value was up about 90 percent,

Table 19--U.S. turkey exports to major importers, January-August, 1987-1988

Country or area	1987	1988
	1000 lb	
Egypt	636	6,903
Federal Rep. of Germany	2,196	5,203
Mexico	886	3,893
Taiwan	412	2,978
Japan	751	2,100
South Africa	0	1,479
Ivory Coast	166	1,464
Hong Kong	868	1,339
Canada	3,483	1,034
French Polynesia	0	1,023
Western Samoa	1,049	1,011
Other	6,126	6,112
Grand Total	16,573	34,539

to \$15.5 million. Turkey parts increased their dominance, making up about 90 percent of the total compared to 80 percent a year ago. Parts, with an average unit value of 43 cents per pound, were 32 percent lower than whole turkey.

Egypt, which is experiencing meat shortages, has become the leading turkey meat importer, taking about 7 million pounds, nearly 11 times that of a year earlier. These imports were nearly all parts and had an export unit value of 25 cents a pound. West Germany continued to be a leading importer, taking about 5 million pounds at 50 cents per pound, but purchases have slowed since June 1988. Exports are up sharply to Mexico, at about 4 million pounds with an average value of 64 cents. These exports reflect Mexico's current strategy of importing U.S. foods to moderate its price inflation.

The outlook for further turkey exports to West Germany, our largest market in 1987 at 4.7 million pounds, was recently clouded when U.S. seasoned turkey was reclassified under a higher EC variable levy duty category. At these higher duty levels, U.S. turkey is priced out of the market. U.S. government officials are working with the EC Commission to allow U.S. seasoned turkey access at the lower duty rate.

Higher U.S. turkey prices since May are expected to slow future export growth, but 1988 exports will still be about 35 percent above 1987's 33 million pounds. For 1989, with U.S. prices expected to be above 1988, expectations are that turkey exports will drop slightly below 1988. The outcome of the on-going trade negotiations with Taiwan to re-open its market to U.S. turkey parts, and with the EC over the classification of U.S. seasoned turkey, will materially affect the level of 1989 exports.

Egg Exports Up

U.S. exports of eggs January through August 1988 were above those of a year ago in all major categories. Total value was up about 30 percent to \$68 million. Table egg exports, about 19 million dozen, nearly doubled from last year

and were valued at about \$12 million. Hong Kong, with 8 million dozen, continues to be the dominant buyer, assisted by the EEP. Other EEP exports have been slow, with about 1.7 million dozen actually exported to the Near East, out of sales of 3 million dozen table eggs. Exports to Mexico, nearly 2 million dozen, were over 13 times that of a year ago. While Iraq has not imported any U.S. table eggs under the EEP since the 4.3 million dozen early this year, it has purchased 4.1 million dozen of hatching eggs under an Intermediate Export Credit Gurrantee Program (GSM-103). Canada, with 5.2 million dozen, continued as the leading importer during January-August. Jamaica, with 1.4 million dozen, is also an important hatching-egg importer. The total value of hatching-egg exports was about \$30 million.

U.S. egg-product exports were the equivalent of 52.7 million dozen worth about \$26 million January through August, up 29 percent in volume from a year ago. Exports to Japan, 42.7 million dozen equivalent, were up 33 percent and made up 81 percent of egg product exports as the U.S. competitive position strengthened.

Egg Exports Increasing in 1988 But Expected To Drop During 1989

The short-term Export Credit Guarantee (GSM-102) assisted sales of 15 million dozen table eggs to Mexico boosted exports substantially during the last 4 months of 1988. These sales are expected to make Mexico the largest importer of U.S. table eggs. Exports of hatching eggs to Jamaica are expected to increase as that country rebuilds its poultry industry following the devastation caused by Hurricane Gilbert in mid-September. Export credits include provision for hatching eggs.

Therefore, despite an expected drop in exports under EEP this year, mainly to Iraq, total 1988 egg sales including those as products should exceed last year's 111 million dozen by 20 to 30 percent. Exports will be equivalent to about 2.4 percent of production compared to 1.9 percent during 1987.

Table 20--U.S. egg exports to major importers, January-May, 1987-1988 1/

Country or area	1987	1988
	1000 dozen	
Japan	32,295	43,046
Canada	9,521	8,569
Iraq	0	8,433
Hong Kong	6,368	8,234
Mexico	518	3,972
Federal Rep. of Germany	815	2,378
United Arab Emirates	0	1,610
Jamaica	1,237	1,435
South Korea	470	1,088
Switzerland	1,013	1,020
Other	9,792	7,682
Grand Total	62,029	87,467

1/ Shell, and shell equivalent of egg products.

Higher U.S. egg prices expected in 1989 will likely weaken exports. They are expected to drop 12 to 20 percent from 1988, given current trends in EEP sales. The level of sales under export credit programs as well as under EEP will impact significantly on 1989's exports.

Egg Imports Down

Total egg imports during January-August 1988, at 2.9 million dozen, were down 32 percent from a year earlier. However, during August imports rose 1 million dozen, highest monthly total since January 1987.

The shell equivalent of egg product imports, at 1.9 million dozen, during January-August 1988 were down 10 percent from a year earlier, with 85 percent coming from Canada.

Shell egg imports, at about 1 million dozen, were down 56 percent from a year ago, with sharp reductions in those from Israel and the Netherlands. During August, however, shell egg imports rose from very low levels to 656,000 dozen, mainly from West Germany, Finland, and the Netherlands. A major factor behind the increased imports was the upturn in U.S. table egg prices starting in June.

Pork

Returns Drop, Breeding Inventories Decline

Net returns to hog producers fell sharply in the third quarter, a result of both higher feed costs and lower hog prices. Feed costs were boosted late in the second quarter by the drought, and hog prices suffered from a counterseasonal increase in pork supplies. In September, many producers experienced negative returns for the first time since mid-1986.

Producers thinned breeding inventories and trimmed production plans over the summer, but cutbacks were modest. The number of hogs kept for breeding in the 10 quarterly-reporting States declined 3 percent between June 1 and September 1, but were still 3 percent more than a year ago. Farrowing intentions likewise remained above a year earlier, with those for September-November up 4 percent and December 1988-February 1989 plans up 2 percent.

Average returns are expected to remain negative throughout the fourth quarter, likely prompting further declines in breeding inventories. However, a major herd liquidation is unlikely. Returns are projected to improve in

Table 21--Farrow-to-finish hog production costs and returns, 1,600 head annual sales
North Central Region 1/

Item	1988								
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.
Dollars per cwt									
Cash receipts: 2/									
Market hogs (94.25 lb)	42.37	44.24	40.49	40.13	44.43	45.94	43.25	43.63	38.91
Cull sows (5.75 lb)	1.90	2.02	1.95	1.99	2.10	1.90	1.76	1.90	1.86
Total	44.27	46.26	42.44	42.12	46.53	47.84	45.01	45.53	40.77
Cash expenses:									
Feed--									
Corn (345.6 lb)	9.60	9.82	9.91	10.38	10.37	10.41	10.60	10.66	11.50
Soybean meal (70.6 lb)	7.32	7.39	7.39	7.39	8.43	8.43	8.43	9.92	9.92
Mixing concentrates (14.3 lb)	2.84	2.82	2.82	2.82	2.85	2.85	2.85	2.85	2.85
Total feed	19.76	20.03	20.12	20.59	21.65	21.69	21.88	23.43	24.27
Other:									
Veterinary and medicine 3/	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Fuel, lube, and electricity	1.48	1.50	1.50	1.50	1.50	1.50	1.50	1.51	1.51
Machinery and building repairs	2.42	2.42	2.42	2.45	2.45	2.45	2.45	2.45	2.45
Hired labor 4/	1.27	1.27	1.27	1.38	1.38	1.38	1.38	1.38	1.38
Miscellaneous	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Total variable expenses	26.27	26.56	26.65	27.26	28.32	28.36	28.55	30.11	30.95
General farm overhead	1.53	1.61	1.47	1.46	1.62	1.67	1.57	1.59	1.42
Taxes and insurance	0.63	0.63	0.63	0.63	0.71	0.71	0.71	0.71	0.71
Interest	3.73	3.89	3.57	3.54	3.96	4.07	3.83	3.87	3.47
Total fixed expenses	5.89	6.13	5.67	5.63	6.29	6.45	6.11	6.17	5.60
Total cash expenses 5/	32.16	32.69	32.32	32.89	34.61	34.81	34.66	36.28	36.55
Receipts less cash expenses	12.11	13.57	10.12	9.23	11.92	13.03	10.35	9.25	4.22
Capital replacement	5.79	5.84	5.84	5.84	5.91	5.91	5.91	5.91	5.91
Receipts less cash expenses and replacement	6.32	7.73	4.28	3.39	6.01	7.12	4.44	3.34	-1.69

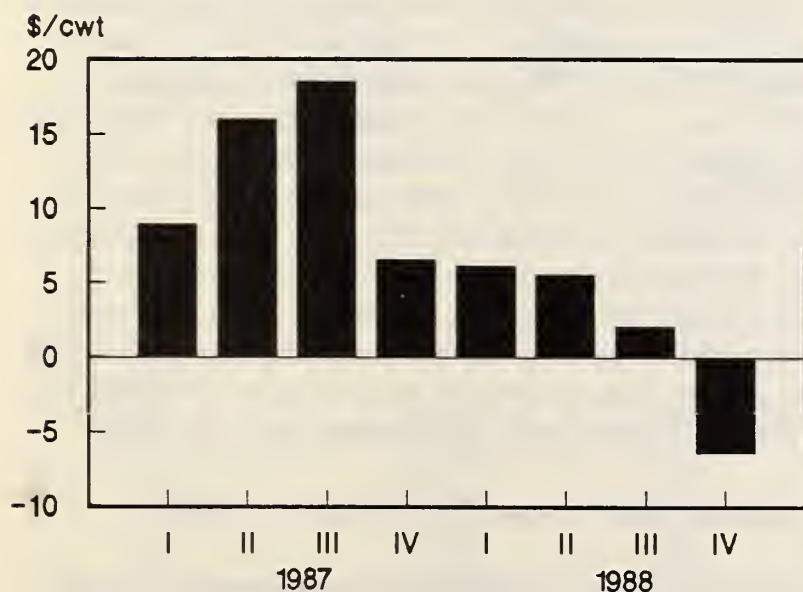
1/ The feed rations and expense items do not necessarily coincide with the experience of individual hog operations and are an average of a group of operators. For individual use, adjust expenses and prices for management, production levels and locality of operation. 2/ Based on 94.25 lb of barrows and gilts liveweight and 5.75 lb of sows per cwt sold. 3/ Includes costs for feed medication, that is usually included as part of the feed cost. 4/ Based on .204 hours per cwt of liveweight hog marketed. 5/ Do not include a charge for family or operator labor (.732 hours) or a charge for land and fixed assets.

Table 22--Corn Belt hog feeding: Selected costs at current rates 1/

Purchased during: Marketed during:	Nov.'87 Mar.'88	Dec. Apr.	Jan. May	Feb. June	Mar. July	Apr. Aug.	May Sept	June Oct.	July Nov.	Aug. Dec.	Sept. Jan.
Expenses: (\$/head)											
40-50 lb feeder pig	36.56	31.74	37.47	44.80	48.65	52.16	46.85	31.40	27.57	27.39	28.30
Corn (11 bu)	17.71	18.76	19.08	20.02	20.13	20.52	21.34	26.46	29.86	28.88	28.38
Protein supplement (130 lb)	18.79	18.79	20.28	20.28	20.30	20.02	20.02	20.02	25.29	25.29	25.29
Total feed	36.50	37.55	39.36	40.30	40.43	40.54	41.36	46.48	55.15	54.17	53.67
Labor & management (1.3 hr)	10.61	10.61	10.86	10.86	10.86	12.27	12.27	12.27	12.12	12.12	12.12
Vet medicine 2/	2.68	2.68	2.70	2.70	2.70	2.74	2.74	2.74	2.80	2.80	2.80
Interest on purchase (4 mo)	1.37	1.19	1.40	1.68	1.82	1.92	1.72	1.15	1.03	1.02	1.05
Power, equip, fuel, shelter depreciation 2/	6.52	6.52	6.55	6.55	6.55	6.67	6.67	6.67	6.81	6.81	6.81
Death loss (4% of purchase)	1.46	1.27	1.50	1.79	1.95	2.09	1.87	1.26	1.10	1.10	1.13
Transportation (100 miles)	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48
Marketing expenses	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Miscel. & indirect costs 2/	.67	.67	.67	.67	.67	.68	.68	.68	.70	.70	.70
Total	97.99	93.85	102.13	110.97	115.25	120.69	115.78	104.27	108.90	107.73	108.20
Selling Price Required To Cover: (\$/cwt)											
Feed and feeder costs (220 lb)	33.21	31.50	34.92	38.68	40.49	42.14	40.10	35.40	37.60	37.07	37.26
All costs (220 lb)	44.54	42.66	46.42	50.44	52.39	54.86	52.63	47.40	49.50	48.97	49.18
Feed cost per 100-lb gain (180 lb)	20.28	20.86	21.87	22.39	22.46	22.52	22.98	25.82	30.64	30.09	29.82
Barrows and gilts, 7 mkts	42.79	42.10	47.55	48.06	45.57	46.10	41.04				
Net margin	-1.75	-.56	1.13	-2.38	-6.82	-8.76	-11.59				
Prices:											
40-lb feeder pig (So. Missouri) \$/head	36.56	31.74	37.47	44.80	48.65	52.16	46.85	31.40	27.57	27.39	28.30
Corn \$/bu 3/	1.61	1.70	1.74	1.82	1.84	1.86	1.94	2.42	2.72	2.62	2.58
Protein supp. (38-42%) \$/cwt 4/	14.45	14.45	15.60	15.60	15.60	15.40	15.40	15.40	19.45	19.45	19.45
Labor & management \$/hr 5/	8.16	8.16	8.35	8.35	8.35	9.44	9.44	9.44	9.32	9.32	9.32
Interest rate (annual)	11.22	11.22	11.22	11.22	11.22	11.02	11.02	11.02	11.17	11.17	11.17
Transportation rate \$/cwt (100 miles) 6/	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Marketing expenses \$/cwt 7/	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Index of prices paid by farmers (1910-14=100)	1132	1132	1138	1138	1138	1158	1158	1158	1182	1182	1182

1/ Although a majority of hog feeding operations in the Corn Belt are from farrow-to-finish, relative fattening expenses will be similar. Costs represent only what expenses would be if all selected items were paid for during the period indicated. The feed rations and expense items do not necessarily coincide with the experience of individual feeders. For individual use, adjust expenses and prices for management, production level, and locality of operation. 2/ Adjusted monthly by the index of prices paid by farmers for commodities, services, interest, taxes, and wage rates. 3/ Average price received by farmers in Iowa and Illinois. 4/ Average prices paid by farmers in Iowa and Illinois. 5/ Assumes an owner-operator receiving twice the farm labor rate. 6/ Converted from cents/mile for a 44,000-pound haul. 7/ Yardage plus commission fees at a Midwest terminal market.

Net Returns to Hog Producers



Hogs Kept for Breeding, 10 States

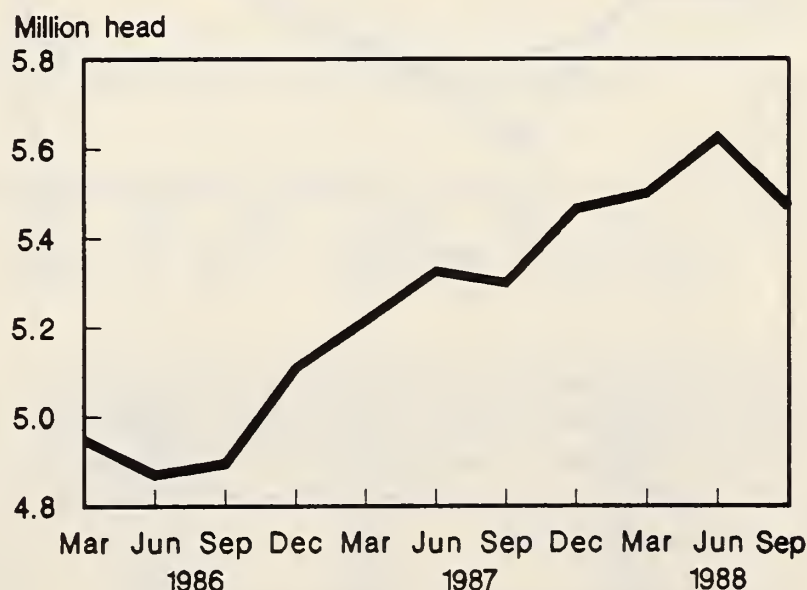


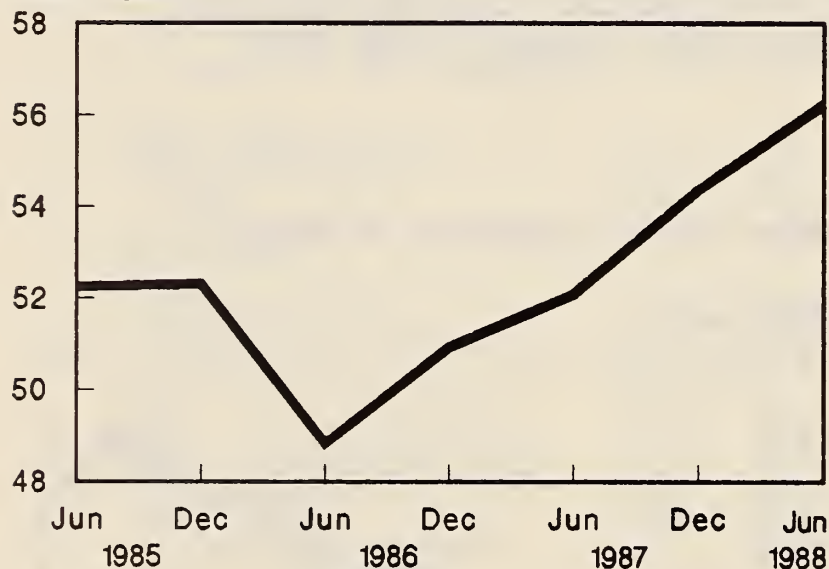
Table 23--Hogs on farms September 1, farrowings and pig crops, 10 States 1/

Item	1984	1985	1986	1987	1988	1987/86	1988/87
	1,000 head				% change		
Inventory	43,180	41,820	39,585	43,075	45,070	+9	+5
Breeding	5,550	5,377	4,895	5,300	5,470	+8	+3
Market	37,630	36,443	34,690	37,775	39,600	+9	+5
Under 60 lb	14,957	14,630	13,970	14,870	15,160	+6	+2
60-119 lb	9,209	8,820	8,385	9,265	9,900	+10	+7
120-179 lb	7,835	7,406	6,970	7,805	8,245	+12	+6
180 + lb	5,629	5,587	5,365	5,835	6,295	+9	+8
Sows farrowing							
Dec. 2/-Feb.	1,964	1,955	1,863	1,916	2,103	+3	+10
March-May	2,481	2,420	2,171	2,352	2,552	+8	+9
Dec. 2/-May	4,445	4,375	4,034	4,268	4,655	+6	+9
June-Aug.	2,259	2,191	2,074	2,257	2,343	+9	+4
Sept.-Nov.	2,316	2,265	2,115	2,259	2,345	+7	+4
June-Nov.	4,575	4,456	4,189	4,516	4,688	+8	+4
Pig crops							
Dec. 2/-Feb.	14,288	14,690	14,254	14,840	16,331	+4	+10
March-May	18,814	18,762	16,957	18,601	19,968	+10	+7
Dec. 2/-May	33,102	33,452	31,211	33,441	36,299	+7	+9
June-Aug.	17,158	16,941	16,164	17,481	17,877	+8	+2
Sept.-Nov.	17,420	17,255	16,460	17,503		+6	
June-Nov.	34,578	34,196	32,624	34,984		+7	
Pigs per litter							
Dec. 2/-Feb.	7.27	7.51	7.65	7.75	7.77	+1	0
March-May	7.58	7.75	7.81	7.91	7.82	+1	-1
Dec. 2/-May	7.45	7.65	7.74	7.84	7.80	+1	-1
June-Aug.	7.60	7.73	7.79	7.75	7.63	-1	-2
Sept.-Nov.	7.52	7.62	7.78	7.75		0	
June-Nov.	7.56	7.67	7.79	7.75		-1	

1/ Ga., Ill., Ind., Ia., Kan., Minn., Mo., Neb., N.C., and Ohio. 2/ Dec. preceding year. 3/ Intentions.

U.S. Hog Inventory

Million head



early 1989, and premiums in deferred futures prices, which have persisted since the onset of the drought, could provide producers an incentive to maintain herds. A moderate reduction in breeding inventories is likely, followed by stabilization in early to mid-1989.

Hog Prices Pressured by Large Kills

An 8-percent increase in farrowings last winter and spring has caused hog slaughter to swell in the second half of 1988,

and prices are suffering as a result. Third-quarter commercial pork production rose 1 percent from the second quarter, in contrast to the normal seasonal pattern. Large stocks of frozen pork also pressured the market in the third quarter. Hog prices peaked in the low \$50's per cwt in June, slipped to the mid-\$40's in July and August, and fell to \$41 in September.

In October, hog slaughter was about 9 percent above a year ago. Barrow and gilt prices dropped into the high \$30's per cwt and are expected to average \$38-40 for the quarter, down from \$44 in 1987. The large supply of hogs has permitted packers to operate near capacity, allowing them to bid less aggressively for hogs, and reducing hog prices below fresh pork prices. Smaller turkey supplies have helped support the market for hams, but the higher rate of pork production and larger freezer stocks will likely keep ham prices below a year ago through the holiday season. Commercial pork production during October-December may reach 4.3 billion pounds, 6 percent more than a year ago. If realized, it will be the largest fourth-quarter production since 1979.

Pork Supplies To Be Up in First-Half 1989

The June-August 1988 pig crop was estimated 3 percent larger than a year earlier, despite a significant reduction in pigs saved per litter due to heat stress. Accordingly, hog slaughter will likely exceed year-earlier levels in the first 3 months of 1989. First-quarter commercial slaughter is

Table 24--Hogs on farms, farrowings, and pig crops, United States 1/

Inventory	1986	1987	1988	1989	1987/86	1988/87	1989/88
	1,000 head				Percent change		
March 1 inventory	NA	NA	52,145		NA	NA	
Breeding	NA	NA	7,100		NA	NA	
Market	NA	NA	45,045		NA	NA	
Under 60 lb	NA	NA	17,555		NA	NA	
60-119 lb	NA	NA	10,710		NA	NA	
120-179 lb	NA	NA	9,110		NA	NA	
180 + lb	NA	NA	7,670		NA	NA	
June 1 inventory	48,825	52,080	56,240		+7	+8	
Breeding	6,420	7,025	7,525		+9	+7	
Market	42,405	45,055	48,715		+6	+8	
Under 60 lb	17,645	19,535	20,885		+11	+7	
60-119 lb	10,565	11,050	12,010		+5	+9	
120-179 lb	7,990	8,160	8,810		+2	+8	
180 + lb	6,205	6,310	7,010		+2	+11	
Sept. 1 inventory	NA	NA	58,270		NA	NA	
Breeding	NA	NA	7,270		NA	NA	
Market	NA	NA	51,000		NA	NA	
Under 60 lb	NA	NA	19,660		NA	NA	
60-119 lb	NA	NA	12,700		NA	NA	
120-179 lb	NA	NA	10,445		NA	NA	
180 + lb	NA	NA	8,195		NA	NA	
Dec. 1 inventory	50,920	54,365			+7		
Breeding	6,671	7,086			+6		
Market	44,250	47,279			+7		
Under 60 lb	16,756	17,640			+5		
60-119 lb	11,228	11,947			+6		
120-179 lb	9,106	9,675			+6		
180 + lb	7,159	8,017			+12		
Sows Farrowing							
Dec. 2/-Feb.	2,443	2,506	2,703	2,786 3/	+3	+8	+3
March-May	2,803	3,032	3,302		+8	+9	
Dec. 2/-May	5,246	5,538	6,005		+6	+8	
June-August	2,727	2,930	3,093		+7	+6	
Sept.-Nov.	2,696	2,845	2,995 3/		+6	+5	
June-Nov.	5,423	5,775	6,088 4/		+6	+5	
Pig Crop							
Dec. 1/-Feb.	18,513	19,339	20,879		+4	+8	
March-May	21,879	23,796	25,768		+9	+8	
Dec. 1/-May	40,392	43,135	46,647		+7	+8	
June-August	21,158	22,694	23,577		+7	+4	
Sept.-Nov.	20,839	21,982			+5		
June-Nov.	41,997	44,676			+6		
Pigs per litter							
Dec. 2/-Feb.	7.58	7.72	7.72		+2	0	
March-May	7.81	7.85	7.80		+1	-1	
Dec. 2/-May	7.70	7.79	7.77		+1	0	
June-Aug.	7.76	7.75	7.62		0	-2	
Sept.-Nov.	7.73	7.73			0		
June-Nov.	7.74	7.74			0		

1/ March and September inventories not available for United States prior to 1988. 2/ December preceding year. 3/ Intentions. 4/ Actual farrowings for June-August plus intentions for September-November.

Table 25--Commercial hog slaughter 1/ and production

Year	Barrows & gilts	Sows	Boars	Total	Dressed weight	Commercial production
	1,000 head				Pounds	Million pounds
1986						
I	19,272	920	187	20,379	175	3,570
II	19,224	896	196	20,316	176	3,568
III	17,365	999	210	18,573	174	3,237
IV	19,223	927	179	20,330	178	3,623
Year	75,084	3,742	772	79,598	176	13,998
1987						
I	19,008	762	170	19,940	178	3,540
II	17,877	846	188	18,911	176	3,327
III	18,201	1,009	186	19,396	174	3,384
IV	21,776	888	170	22,834	178	4,061
Year	76,862	3,505	714	81,081	177	14,312
1988						
I	20,293	854	192	21,339	177	3,787
II	19,727	941	200	20,868	179	3,726
III	19,957	1,180	228	21,365	177	3,773

1/ Classes estimated.

Table 26--Federally inspected hog slaughter

Week ended	1986	1987	1988
Thousands			
Jan.			
9	1,675	1,683	1,717
16	1,654	1,659	1,766
23	1,563	1,527	1,605
30	1,506	1,500	1,543
Feb.			
6	1,526	1,455	1,535
13	1,512	1,502	1,544
20	1,501	1,395	1,542
27	1,606	1,533	1,595
Mar.			
5	1,635	1,556	1,600
12	1,650	1,578	1,674
19	1,556	1,574	1,639
26	1,579	1,504	1,631
Apr.			
2	1,518	1,529	1,599
9	1,633	1,553	1,573
16	1,651	1,468	1,655
23	1,619	1,393	1,659
30	1,637	1,453	1,695
May			
7	1,607	1,475	1,653
14	1,560	1,440	1,633
21	1,518	1,448	1,577
28	1,310	1,232	1,533
June			
4	1,471	1,385	1,323
11	1,459	1,372	1,489
18	1,373	1,341	1,513
25	1,330	1,356	1,510
July			
2	1,118	1,193	1,537
9	1,390	1,360	1,330
16	1,349	1,345	1,537
23	1,281	1,354	1,543
30	1,314	1,330	1,456
Aug.			
6	1,338	1,372	1,525
13	1,369	1,445	1,571
20	1,402	1,404	1,513
27	1,419	1,475	1,563
Sept.			
3	1,257	1,548	1,608
10	1,492	1,363	1,517
17	1,504	1,709	1,799
24	1,504	1,621	1,868
Oct.			
1	1,521	1,658	1,802
8	1,555	1,638	1,821
15	1,528	1,720	1,837
22	1,551	1,664	
29	1,580	1,763	
Nov.			
5	1,576	1,792	
12	1,537	1,778	
19	1,557	1,772	
26	1,308	1,463	
Dec.			
3	1,530	1,845	
10	1,548	1,879	
17	1,503	1,728	
24	1,069	1,150	
31	1,258	1,458	

1/ Corresponding dates to 1988: 1986, January 11; 1987, January 10.

forecast near 22.1 million head, an increase of 4 percent, with pork production up 3 percent at 3.9 billion pounds.

The quarterly slaughter forecast implies that weekly kills under Federal inspection may drop below 1.65 million head this winter, compared with fall peaks near 1.9 million. The substantial seasonal decline in slaughter will support fresh pork prices and narrow the spread between hog prices and cutout values. Since the spread has been unusually wide this

fall, narrowing it to normal levels could contribute substantially to a seasonal rally in hog prices. Bids for barrows and gilts could rise to the upper-\$40's per cwt at the winter peak, and first-quarter prices could average \$41-47 at the 7 markets.

Second-quarter pork production may continue above 1988 levels, owing to an increase in the September-November 1988 pig crop. Fall farrowing intentions were up 4 percent in the 10 quarterly States, and 5 percent higher nationwide. The number of pigs per litter likely will be lower than a year ago, primarily due to reduced conception rates during the May-July breeding season. Historical trends also suggest that as the breeding herd contracts, pig crops tend to be smaller than indicated by farrowing intentions. Thus, hog slaughter may be up around 3 percent in the second quarter to about 21.5 million head. Dressed weights may be lighter than last spring's record 179 pounds, so commercial pork production may rise only 2 percent, totaling near 3.8 billion pounds.

Despite the increase in pork production, second-quarter hog prices could average \$44-50 per cwt, compared with \$46 in 1988. Total pork supplies may be up only 1 percent on a per-capita basis, and a projected 7-percent drop in beef production likely will support wholesale pork prices in the spring.

Prices To Strengthen in Second Half 1989

The onset of negative returns in September likely prompted a reduction in the number of sows and gilts being bred, particularly on smaller operations. If so, pork production in the second half of 1989 will be reduced and hog prices lifted.

On September 1, producers in the 10 quarterly-estimating States reported intentions to have 2 percent more sows farrow than a year earlier during December 1988-February 1989. In the United States, farrowing intentions were up 3 percent. Since most of these sows were bred after September 1, when returns fell below breakeven, producers may have lowered their plans. The December-February pig crop is expected to be about the same as a year earlier, while the March-May 1989 pig crop could be 2-3 percent smaller than in 1988. These pigs will be slaughtered in the second half of the year.

Third-quarter 1989 pork production is projected near 3.8 billion pounds, 1 percent above a year earlier. Reflecting the downturn in farrowings, fourth-quarter production could fall 3 percent to 4.2 billion pounds. Hog prices are expected to rise in both quarters, with third-quarter strength due in part to a change in the seasonal slaughter pattern. Compared with 1988, there will likely be a greater decline in hog slaughter from spring to summer, followed by a much

Table 27--Summer pig crop and hog slaughter

Year	Pig crop June-Aug.	Commercial slaughter Jan-Mar. 1/	Slaughter as percentage of pig crop
	- - - 1,000 head - - -		Percent
1970	25,142	24,256	96.5
1971	23,260	22,260	95.7
1972	21,838	20,225	92.6
1973	21,209	20,150	95.0
1974	20,273	18,760	92.5
1975	18,022	17,432	96.7
1976	21,656	19,770	91.3
1977	22,239	19,404	87.3
1978	22,937	20,040	87.4
1979	26,915	24,236	90.0
1980	24,417	23,678	97.0
1981	23,548	21,714	92.2
1982	21,383	20,212	94.5
1983	23,361	21,806	93.3
1984	22,346	20,871	93.4
1985	22,010	20,379	92.5
1986	21,158	19,940	94.2
1987	22,694	21,339	94.0
1988	23,577		

1/ January-March of the following year.

SOURCE: Economic Research Service.

Table 28--Fall pig crop and hog slaughter

Year	Pig crop Sept.-Nov.	Commercial slaughter Apr.-June 1/	Slaughter as percentage of pig crop
	- - - 1,000 head - - -		Percent
1970	24,446	23,609	96.6
1971	22,746	21,389	94.0
1972	21,213	19,478	91.8
1973	20,789	21,014	101.1
1974	18,679	17,808	95.3
1975	17,634	16,821	95.4
1976	20,562	18,743	91.2
1977	20,963	19,042	90.8
1978	23,094	21,740	94.1
1979	25,326	25,039	98.9
1980	25,015	22,594	90.3
1981	22,700	20,712	91.2
1982	22,231	21,666	97.5
1983	22,385	21,123	94.4
1984	21,837	21,343	97.7
1985	21,474	20,316	94.6
1986	20,839	18,911	90.7
1987	21,982	20,868	94.9

1/ April-June of the following year.

SOURCE: Economic Research Service.

Table 29--Winter pig crop and hog slaughter

Year	Pig crop Dec.-Feb.	Commercial slaughter, July-Sept.	Slaughter as percentage of pig crop
	- - - 1,000 head - - -		Percent
1970	19,771	20,619	104.3
1971	20,959	22,308	106.4
1972	19,252	19,441	101.0
1973	19,050	16,875	88.6
1974	18,509	19,705	106.5
1975	15,287	15,307	100.1
1976	17,572	17,982	102.3
1977	18,532	18,293	98.7
1978	18,807	18,554	98.7
1979	21,887	22,083	100.9
1980	23,685	22,158	93.6
1981	21,045	21,277	101.1
1982	18,759	18,940	101.0
1983	20,877	21,373	102.4
1984	18,757	19,495	103.9
1985	19,101	20,556	107.6
1986	18,513	18,573	103.2
1987	19,339	19,396	100.3
1988	20,879	21,365	102.3

SOURCE: Economic Research Service.

Table 30--Spring pig crop and hog slaughter

Year	Pig crop Mar.-May	Commercial slaughter, Oct.-Dec.	Slaughter as percentage of pig crop
	- - - 1,000 head - - -		Percent
1970	32,355	25,271	78.1
1971	30,959	24,264	78.4
1972	28,271	21,617	76.5
1973	27,075	20,217	74.7
1974	26,283	20,893	79.5
1975	20,243	16,813	83.1
1976	24,605	21,549	87.6
1977	24,428	20,497	83.9
1978	23,674	20,316	85.8
1979	28,664	25,237	88.0
1980	28,603	24,641	86.1
1981	26,560	24,026	90.5
1982	22,816	20,825	91.3
1983	26,532	24,334	91.7
1984	23,646	22,742	96.2
1985	23,444	21,721	92.7
1986	21,879	20,330	92.9
1987	23,796	22,834	96.0
1988	25,768		

SOURCE: Economic Research Service.

smaller increase in the fall. Prices could average in the mid to high \$40's per cwt in July-September, and in the mid \$40's in October-December.

Retail Pork Prices Decline

Retail pork prices averaged \$1.86 per pound in the third quarter, 10 cents lower than a year earlier. Prices rose 1 cent from the second quarter, despite a 6-cent decline in wholesale prices. Further weakness at the wholesale level is

expected to lead retail prices lower in the fourth quarter, to about \$1.82 per pound. If so, the 1988 average will be near \$1.84, down from \$1.88 in 1987.

In 1989, per capita consumption of pork is projected to hold steady at about 64 pounds retail weight. Retail pork prices are expected to rise, with the largest increases occurring in the second half. For the year, prices may average \$1.85-1.90 per pound, increasing 1-3 percent from 1988.

Table 31--Pork: Retail, wholesale, and farm values, spreads, and farmers' share

Year	Retail price 1/	Wholesale value 2/	Gross farm value 3/	By-product allowance 4/	Net farm value 5/	Farm retail spread			
						Total	Wholesale-retail	Farm-wholesale	Farmers' share 6/
						Cents per pound			Percent
1982	175.4	121.8	94.3	6.3	88.0	87.4	53.6	33.8	50
1983	169.8	108.9	81.4	4.9	76.5	93.3	60.9	32.4	45
1984	162.0	110.1	83.3	5.9	77.4	84.6	51.9	32.7	48
1985	162.0	101.1	76.2	4.8	71.4	90.6	60.9	29.7	44
1986	178.4	110.9	87.3	4.9	82.4	96.0	67.5	28.5	46
1987	188.4	113.0	87.9	5.2	82.7	105.7	75.4	30.3	44
I	185.0	103.8	81.8	5.0	76.8	108.2	81.2	27.0	41
II	183.4	116.6	95.6	5.5	90.1	93.3	66.8	26.5	49
III	195.5	124.3	100.3	5.9	94.4	101.1	71.2	29.9	48
IV	189.7	107.4	74.0	4.3	69.7	120.0	82.3	37.7	37
1988									
Jan.	185.3	104.0	75.9	4.6	71.3	114.0	81.3	32.7	38
Feb.	183.1	105.3	80.3	4.8	75.5	107.6	77.8	29.8	41
Mar.	183.3	103.5	72.9	4.3	68.6	114.7	79.8	34.9	37
I	183.9	104.3	76.4	4.6	71.8	112.1	79.6	32.5	39
Apr.	182.9	102.5	71.4	4.2	67.2	115.7	80.4	35.3	37
May	183.6	106.4	80.8	4.7	76.1	107.5	77.2	30.3	41
June	187.9	106.3	81.7	4.9	76.8	111.1	81.6	29.5	41
II	184.8	105.1	78.0	4.6	73.4	111.4	79.7	31.7	40
July	187.4	100.0	77.4	4.8	72.6	114.8	87.4	27.4	39
Aug.	185.5	101.4	78.1	4.7	73.4	112.1	84.1	28.0	40
Sept.	184.9	97.2	69.5	4.4	65.1	119.8	87.7	32.1	35
III	185.9	99.5	75.0	4.6	70.4	115.5	86.4	29.1	38

1/ Estimated weighted-average of BLS prices of retail cuts from pork carcass. 2/ Value of wholesale quantity equivalent to 1 lb of retail cuts. A wholesale-carcass equivalent of 1.06 is used. 3/ Market values to producer for 1.7 lb of live animal, equivalent to 1 lb of retail cuts. 4/ Portion of gross farm value attributable to edible and inedible by-products. 5/ Gross farm value minus by-product allowance. 6/ Percent net farm value is of retail price.

Table 32--Sow slaughter balance sheet, 10 States

Item	1985	1986	1987	1988
	Million head			
December 1 breeding 1/	5.3	5.3	5.1	5.4
December-February				
Comm. sow slaughter 2/	.8	.7	.6	.7
Gilts added	.7	.3	.7	.7
March 1 breeding	5.2	4.9	5.2	5.5
March-May				
Comm. sow slaughter 2/	.7	.6	.6	.9
Gilts added	.9	.6	.7	1.0
June 1 breeding	5.4	4.9	5.3	5.6
June-August				
Comm. sow slaughter 2/	.8	.7	.8	1.2
Gilts added	.8	.7	.8	1.1
September 1 breeding	5.4	4.9	5.3	5.5
September-November				
Comm. sow slaughter	.8	.7	.7	
Gilts added	.7	.9	.8	

1/ December previous year. 2/ 75 percent of estimated U.S. commercial sow slaughter.

U.S. Pork Trade

U.S. Pork Imports

U.S. pork imports for 1988 are forecast at 1.2 billion pounds, roughly the same as 1987 levels. As a result of reduced slaughter, Denmark, Poland, and Yugoslavia, major competitors for the U.S. market, shipped less pork to the United States. However, a slight increase in imports of Canadian pork could offset the decline by those countries. For the first 8 months, U.S. pork imports have been basically unchanged. U.S. imports of Canadian pork for the first 8

months of the year are 372 million pounds, only slightly higher than 1987 levels. However, it is possible that imports of Canadian pork could slow as several factors encourage a shift of imports to live hogs.

One factor encouraging an increase in Canadian live hog shipments to the United States has been labor dispute in western Canadian packinghouses. As of the end of October, several plants in Alberta and British Columbia were completely shut down and a some of the overflow is being shipped to slaughter plants in the western United States. However, another factor encouraging the shipment of live hogs from Canada has been the reduction of the U.S. countervailing duty deposit on live hogs. Preliminary analysis indicates that a 50-percent reduction in the deposit rate could increase live hog imports by approximately 16 percent. In the short term, an increase in live hog exports would be expected to lead to a reduction in dressed pork exports.

In 1989, that U.S. pork imports may remain at approximately 1.2 billion pounds. Canadian government reports indicate that lower hog prices and higher grain costs are expected to result in a 2-percent reduction in Canadian pork production in 1989. Although Denmark is expected to expand pork production, increased demand from other European Community countries should limit growth in the amount of pork exported to non-EC countries. In 1989, imports from Eastern Europe should remain unchanged from 1988 levels. Although pork production in Yugoslavia is expected to increase, production in Poland is forecast to continue its decline.

Table 33--U.S. pork trade, carcass weight 1/

Country or area	Annual 1987	January-August		Percent change
		1987	1988	
	Million pounds			Percent
Imports				
Canada	545.6	370.3	371.6	.4
Denmark	345.3	213.8	205.7	-3.8
Poland	125.3	85.1	88.3	3.8
Hungary	50.0	33.5	30.7	-8.4
Other	128.9	82.0	89.6	9.3
Total	1,195.1	784.7	785.9	.2
Exports				
Japan	61.7	29.2	80.0	174.0
Canada	9.4	6.2	5.6	-9.7
Mexico	7.1	1.4	16.7	1,092.9
Caribbean	12.3	8.1	5.5	-31.1
Other	18.8	13.7	13.4	-2.2
Total	109.3	58.6	121.2	106.8

1/ Data may not add due to rounding. Percent change calculated from unrounded data.

Table 34--U.S. live hogs trade 1/

Country or area	Annual 1987	January-May		Percent change
		1987	1988	
	1,000 head			Percent
Imports				
Mexico	--	--	.6	--
Canada	445.9	290.2	461.9	59.2
Total	446.0	290.4	462.5	59.3
Exports				
Venezuela	.5	.2	1.5	650.0
Mexico	1.2	.7	12.6	1,700.0
Other	5.6	3.3	2.6	-21.2
Total	7.4	4.2	16.7	297.6

1/ May not add due to rounding. Percent change calculated from unrounded data.

U.S. Pork Exports

U.S. pork exports for 1988 are forecast at 190 million pounds, over 70 percent above a year-ago and the highest since 1983. Japan, the major market for U.S. pork, has increased pork imports significantly in 1988. Despite early concerns about the implications of sulfamethazine residue in U.S. pork exported to Japan, a rapid solution to the problem permitted the United States to capitalize on similar problems encountered by Taiwan, the number one supplier to the Japanese market, during the second quarter. Although reports from the U.S. agricultural counselor in Tokyo indicate that the Japanese have not accepted the Taiwanese testing procedures, Taiwan is apparently prepared to have all shipments of pork held and tested by the Japanese in order to maintain market share. By the second half of the year, Taiwanese pork exports to Japan were returning to year-ago levels. In the first 8 months of 1988, the U.S. exported approximately 80 million pounds of pork to Japan, an annual increase of over 170 percent.

In addition to increased pork exports to Japan, there has been a sharp jump in the quantity of both pork and hogs exported to Mexico. After several years of low pork and hog

imports, the Mexican Government increased import licenses and began importing relatively large quantities of pork and live hogs. For the first 8 months of the year, Mexico imported approximately 4.5 million pounds of pork from the United States, compared with 359,000 pounds from a year earlier. During the same period, Mexican imports of live hogs from the U.S. have exceeded 12,000 head, up from 657 in 1987.

United States' pork exports are forecast to decline in 1989 to about 130 million pounds. Although there is some uncertainty as to how long the Mexican Government will continue pork imports, it is expected that the volume for 1989 will be less than that for 1988. Exports to Japan will also be reduced as Taiwan reclaims its market share. Additionally, the possibility of restricted imports due to contaminated pork raised Japanese pork prices in 1988. This will lead to increased pork production. (Although there is some uncertainty as to the impacts of the Japanese beef agreement on pork consumption, increased domestic pork supplies likely will limit import demand).

Cattle

Forage Supplies Improve; But Remain low

Pasture and range feed conditions improved in most areas in September, particularly in the eastern half of the country. Conditions on October 1 were rated at 60 percent, 19 points below a year ago and 15 points below the 1977-86 average for the date. October 1 conditions were 6 points above September 1 conditions with improvement in 34 States. Conditions declined in eight States and were unchanged in six others. Only Montana and North Dakota were rated in extreme drought. Idaho, South Dakota, Wisconsin, and Wyoming were rated in severe drought.

Hay production, as of October 1, was forecast at 130 million tons, somewhat lower than the August 1 estimate and 13 percent below the 1987 harvest. Area harvested in 1988 increased 10 percent from a year ago to the largest acreage since 1965. Additional marginal acreage was harvested, but in addition the long-term Conservation Reserve Acreage was made available for haying in the drought area. This additional acreage helped offset the lowest yields since 1966. Alfalfa hay production is expected to decline 18 percent, while production of other hay may be down only 6 percent. Supplies of higher quality hay has been impacted the most in 1988.

Hay prices averaged \$86.80 per ton in October, up \$22.10 from a year ago, but only \$1.30 from September. Alfalfa hay prices were \$23.80 above a year earlier, while other hay prices rose \$17.10. Alfalfa hay rose \$1.90 from September through October, while other hay declined 50 cents.

Table 35--13-States cattle on feed, placements, marketings, and other disappearance

Year	On feed 1/	Percent change 2/	Place-ments	Percent change 2/	Fed mar-ketings	Percent change 2/	Other dis-appearance	Percent change 2/
	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent
1985								
I	10,653	7.3	5,315	-3.4	5,907	3.4	373	2.2
II	9,688	3.7	5,206	-6.5	5,787	3.0	437	-24.9
III	8,670	-.3	5,480	-12.3	5,969	5.0	244	-9.0
IV	7,937	-11.8	7,365	-3.0	5,224	-5.1	324	-22.3
Year	---	---	23,366	-6.1	22,887	1.6	1,378	-15.6
1986								
I	9,754	-8.4	5,270	-.8	5,763	-2.4	316	-15.3
II	8,945	-7.7	5,221	+3	5,821	+6	375	-14.2
III	7,970	-8.1	6,336	15.6	5,876	-1.6	233	-4.5
IV	8,197	3.3	6,756	-8.3	5,396	3.3	312	-3.7
Year	---	---	23,583	.9	22,856	-.1	1,236	-10.3
1987								
I	9,245	-5.1	5,680	7.8	5,747	-.3	371	17.4
II	8,807	-1.5	5,906	13.1	5,619	-3.5	428	14.1
III	8,666	+8.7	6,590	4.0	6,022	2.5	242	3.9
IV	8,992	9.7	6,698	-.9	5,583	3.5	338	8.3
Year	---	---	24,874	5.5	22,971	.5	1,379	11.6
1988								
I	9,769	5.7	5,796	2.0	5,810	1.1	390	5.1
II	9,365	6.3	5,898	-.1	5,854	4.2	418	-2.3
III	8,991	3.8	5,959	-9.6	6,151	2.1	223	-7.9
IV	8,576	-4.6			3/ 5,560	-.4		

1/ Beginning of quarter. 2/ Percent change from previous year. 3/ Expected marketings.

Table 36--Cattle on feed, placements, and marketing, 13 States

Item	1986	1987	1988	1988/87
	1,000 head			Percent change
On feed July 1	7,970	8,666	8,991	+4
Placements, July-Sept.	6,336	6,590	5,959	-10
Marketings, July-Sept.	5,876	6,022	6,151	+2
Other disappearance, July-Sept.	233	242	223	-8
On feed Oct. 1	8,197	8,992	8,576	-5
Steer & steer calves	5,184	5,900	5,538	-6
-500 lb	179	334	309	-7
500-699 lb	589	779	593	-24
700-899 lb	1,840	2,078	1,837	-12
900-1,099 lb	1,899	1,978	2,025	+2
1,100+ lb	677	731	774	+6
Heifers & heifer calves	2,991	3,062	3,006	-2
-500 lb	84	117	128	+9
500-699 lb	573	619	528	-15
700-899 lb	1,471	1,358	1,325	-2
900+ lb	863	968	1,025	+6
Cows	22	30	32	+7
Marketings, Oct.-Dec.	5,396	5,583	5,560 1/	0

1/ Intentions.

Fed Marketings Decline Seasonally

Cattle on feed inventories in the 13 quarterly-reporting States totaled 8.6 million head on October 1, 5 percent below last year's relatively large inventory. This was the first time since April 1987 that numbers declined below the previous year. The mix of steers and heifers in feedlots is comparable to a year earlier when lower heifer placements were fol-

lowed by a 10-percent increase in heifers entering breeding herds during the first half of 1988. Steers on feed declined 6 percent from a year ago to 5.5 million head. However, half of these animals weighed above 900 pounds at the beginning of the quarter. This was the largest number of heavyweight steers on feed for this date since the fall of 1973. The weight breakdown on heifers showed a similar pattern. Total inventories were down 2 percent from a year earlier, but the heaviest category accounted for a record 34 percent of the heifers on feed.

Producers in the 13 States intended to market nearly 5.6 million head during the quarter. This would be an aggressive marketing rate but about unchanged from a year earlier. Fed cattle marketings may average near to slightly below a year ago in the fourth quarter. Weekly average marketing likely exceeded 440,000 head for the first half of the quarter, a level which has not been accomplished since 1978. Favorable weather will be an important factor. Feedlots in Nebraska and Kansas will need good weather if they are going to meet the record intentions for the number of cattle marketed during the quarter. Some of the pressure from larger fed cattle marketings will be offset by declining nonfed steer and heifer slaughter. Third-quarter nonfed slaughter fell 20 percent from a year earlier to 365,000 head. A smaller-than-seasonal rise in nonfed slaughter is likely during the fourth quarter. This would pull combined fed and nonfed steer and heifer slaughter 4 percent below a year earlier.

Dressed carcass weights have remained heavy through the year in spite of the summer drought and its impact on forage supplies and grain prices. Weights continued to rise

Table 37--7-States cattle on feed, placements, and marketings

Year	On feed	Percent change 1/	Net placements	Percent change 1/	Marketings	Percent change 1/	Other disappearance	Percent change 1/
	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent
1986								
Jan.	7,920	-8.3	1,494	+12.2	1,750	-1.8	87	-26.3
Feb.	7,664	-6.4	1,128	-9.5	1,470	-4.5	92	-2.1
Mar.	7,322	-7.2	1,564	+4.7	1,593	+2.2	86	-12.2
Apr.	7,293	-6.8	1,445	+12.6	1,631	+1.7	120	-9.8
May	7,107	-5.3	1,624	+4.9	1,635	+1.9	132	+3.1
June	7,096	-4.8	1,095	-7.5	1,648	+4.5	67	-23.0
July	6,543	-7.3	1,480	+45.5	1,692	+1.3	64	+4.9
Aug.	6,331	-1.1	1,732	+19.6	1,659	-2.2	70	+12.9
Sept.	6,404	+4.0	2,044	+7.1	1,637	+2.1	59	-25.3
Oct.	6,811	+5.4	2,322	-13.8	1,587	+9	81	-4.7
Nov.	7,546	-5	1,727	+2.2	1,447	+4.9	87	+14.5
Dec.	7,826	-8	1,331	-2.8	1,514	+8.6	104	-6.3
1987								
Jan.	7,643	-3.5	1,464	-2.0	1,803	+3.0	127	+46.0
Feb.	7,304	-4.7	1,337	+18.5	1,478	+5	105	+14.1
Mar.	7,163	-2.2	1,630	+4.2	1,561	-2.0	89	+3.5
Apr.	7,232	-8	1,542	+6.7	1,541	-5.5	139	15.8
May	7,233	+1.8	1,841	+13.4	1,514	-7.4	143	+8.3
June	7,560	+6.5	1,335	+21.9	1,702	+3.3	87	+29.9
July	7,193	+9.9	1,203	-18.7	1,703	+7	71	+10.9
Aug.	6,693	+5.7	1,847	+6.6	1,722	+3.8	68	-2.9
Sept.	6,818	+6.5	2,358	+15.4	1,641	-2	71	+20.3
Oct.	7,535	+10.6	2,519	+8.5	1,690	+6.5	85	+4.9
Nov.	8,364	+10.8	1,506	-12.8	1,458	+8	103	+18.4
Dec.	8,412	+7.5	1,231	-7.5	1,577	+4.2	119	+14.4
1988								
Jan.	8,066	+5.5	1,549	+5.8	1,759	-2.4	111	-12.6
Feb.	7,856	+7.6	1,243	-7.0	1,527	+3.3	126	+20.0
Mar.	7,572	+5.7	1,727	+6.0	1,573	+8	106	+19.1
Apr.	7,726	+6.8	1,392	-9.7	1,614	+4.7	139	0
May	7,504	+3.7	2,029	+10.2	1,719	+13.5	141	-1.4
June	7,814	+3.4	1,299	-2.7	1,692	-6	68	-21.8
July	7,421	+3.2	1,184	-1.6	1,765	+3.6	62	-12.7
Aug.	6,840	+2.2	1,554	-15.9	1,720	-1	64	-5.9
Sept.	6,674	-2.1	2,117	-10.2	1,662	+1.3	67	-5.6
Oct.	7,129	-5.4						

1/ Percent change is from previous year.

Table 38--October 1 feeder cattle supply

Item	1986	1987	1988	1988/87
	1,000 head			Percent change
Calves less than 500 lb 1/				
On farms July 1	32,200	31,100	30,700	-1.3
Slaughter July-Sept.	859	684	664	-2.9
On feed Oct. 1 1/	310	535	516	-3.6
Total	31,031	29,881	29,520	-1.2
Steers & heifers 500 + lb 2/				
On farms July 1	23,300	22,400	21,800	-2.7
Slaughter Jul.-Sept.	7,520	7,406	7,457	+7
On feed Oct. 1 1/	9,326	10,093	9,566	-5.2
Total	6,454	4,901	4,777	-2.5
Total supply	37,485	34,782	34,297	-1.4

1/ Estimated U.S. steers and heifers. 2/ Not including heifers for cow replacements.

weights averaged 8 pounds heavier for the summer quarter compared to a year earlier, and bull carcasses nearly 30 pounds heavier. Dairy cow slaughter comprised a larger proportion of the cow slaughter mix than a year ago.

These larger supplies of beef should diminish expectations for cattle prices to begin moving sharply higher over the near term. Fed cattle prices likely will remain in the upper \$60's to low \$70's per cwt during the fourth quarter, which will keep feedlot returns very near breakeven levels. It also increases the chances that feedlot space opening up as finished cattle move out will not be refilled as aggressively. With the inventory of lighter steers and heifers on feed down 12 percent from a year ago, the potential exists for marketings to begin falling rather sharply by the end of the quarter. Uncertainty concerning Mexican feeder steer availability will also impact fed cattle marketings in first-half 1989.

Producers holding stocker cattle this fall have negotiated from a strong position and have kept yearling prices above \$80 per cwt during the past several weeks. Yearling feeder cattle supplies outside feedlots were down 2.5 percent from a year earlier on October 1, while the lighter calves dropped 1 percent. This was the lowest feeder cattle supply since this series began in 1973. While this year's calf crop is expected

in September and showed no sign of moderating in October. So, in spite of potential declines in fourth-quarter slaughter, heavier weights could push fed beef production above last year's 4.8 billion pounds, the most since 1978. Even cattle slaughtered directly off grass remain heavy. Cow carcass

Table 39--Federally inspected cattle slaughter

Week ended	Cattle			Steers			Cows								
							Total			Dairy			Dairy/total		
	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988
Thousands															
Percent															
Jan. 9	757	741	664	343	349	328	189	148	132	79	66	64	42	45	48
16	755	766	722	343	360	358	176	151	127	72	67	63	41	44	50
23	704	707	701	321	336	353	153	124	125	67	61	59	44	49	47
30	669	673	673	308	332	340	143	128	117	62	64	56	43	50	48
Feb. 6	655	674	644	307	316	335	144	135	114	64	67	57	44	50	50
13	651	621	636	310	303	332	122	119	103	58	59	53	48	50	51
20	638	602	637	289	292	316	126	109	118	59	55	59	47	50	50
27	676	657	640	318	326	317	136	121	121	64	65	58	47	54	48
Mar. 5	637	678	618	297	337	307	130	127	115	62	67	57	48	53	50
12	638	646	609	304	311	298	128	124	105	61	58	54	48	47	52
19	646	624	622	305	300	312	131	111	106	61	55	54	47	49	51
26	641	616	607	295	303	304	135	116	108	64	58	53	47	50	49
Apr. 2	669	652	617	315	328	315	157	121	106	89	57	51	57	47	48
9	716	649	600	354	333	300	148	114	101	97	51	50	65	45	50
16	705	681	619	339	349	315	137	119	110	86	52	54	63	44	49
23	719	639	670	342	330	349	159	117	108	92	48	49	58	41	45
30	719	635	674	334	321	356	157	118	109	84	48	50	53	41	46
May 7	706	631	664	327	309	358	149	116	105	77	46	47	52	40	45
14	731	700	663	339	348	344	156	124	108	74	50	47	47	37	44
21	729	695	682	334	355	348	158	131	118	77	49	48	49	37	41
28	643	613	689	310	308	355	136	107	125	64	43	52	47	40	42
June 4	720	680	575	364	351	298	142	117	96	66	50	39	46	43	41
11	735	669	681	375	340	336	143	115	121	66	49	51	46	43	42
18	691	649	678	327	320	338	140	123	129	65	49	53	46	40	41
25	731	680	677	343	339	344	147	129	120	69	52	50	47	40	42
July 2	612	621	682	289	316	348	123	109	119	59	47	50	48	43	42
9	734	652	609	342	338	306	149	114	108	74	51	51	50	45	48
16	746	682	724	354	339	341	163	128	135	75	53	62	46	41	46
23	732	672	691	346	333	360	151	121	116	71	51	55	47	42	47
30	685	676	694	310	339	346	148	123	112	75	56	57	51	46	51
Aug. 6	723	694	675	339	335	336	141	123	111	71	58	54	50	47	49
13	767	713	694	361	354	346	150	124	112	78	58	57	52	47	50
20	733	692	688	341	336	337	147	129	115	71	63	54	48	49	47
27	718	706	678	333	341	328	146	132	121	74	66	58	51	50	48
Sept 3	619	690	703	291	324	328	116	119	115	55	54	55	47	45	48
10	734	624	614	332	293	288	134	100	101	59	44	49	44	44	49
17	722	729	692	352	337	333	145	122	124	66	53	58	46	43	47
24	678	677	672	337	312	332	143	123	119	63	57	58	44	46	49
Oct. 1	694	684	667	359	324	316	134	116	118	62	53	58	46	46	49
8	686	690	674	342	340	309	137	120	125	64	53	57	47	44	46
15	690	696	677	318	338	312	150	128	128	66	55		44	43	
22	688	676		322	319		152	136		61	57		40	42	
29	696	664		325	315		165	140		66	59		40	42	
Nov. 5	714	649		335	311		165	140		68	58		41	41	
12	671	643		296	301		168	135		73	56		43	41	
19	692	648		313	308		175	141		70	57		40	40	
26	594	576		281	280		133	109		53	46		40	42	
Dec. 3	685	646		298	305		174	138		74	58		43	42	
10	676	660		302	311		175	140		71	60		41	43	
17	691	639		315	324		170	115		73	51		44	44	
24	512	482		248	242		105	80		46	39		44	49	
31	577	561		274	291		130	86		62	41		48	48	

1/ Corresponding dates to 1988: 1986, Jan. 11; 1987, Jan. 10.

Table 40--Commercial cattle slaughter 1/ and production

Year	Steers and heifers			Cows	Bulls and stags	Total	Dressed weight	Commercial production
	Fed	Nonfed	Total					
	1,000 head						Pounds	Million pounds
1986								
I	6,509	325	6,834	1,885	165	8,884	649	5,769
II	6,702	683	7,385	2,006	181	9,572	653	6,246
III	6,745	775	7,520	1,941	191	9,652	651	6,273
IV	6,126	748	6,874	2,129	177	9,180	645	5,925
Year	26,082	2,531	28,613	7,961	714	37,288	649	24,213
1987								
I	6,511	439	6,950	1,652	163	8,765	656	5,754
II	6,477	619	7,096	1,603	179	8,878	646	5,737
III	6,945	461	7,406	1,636	181	9,223	657	6,064
IV	6,330	566	6,896	1,719	166	8,781	666	5,850
Year	26,263	2,085	28,348	6,610	689	35,647	657	23,405
1988								
I	6,577	322	6,899	1,526	150	8,575	664	5,696
II	6,751	341	7,092	1,504	164	8,760	660	5,784
III	7,085	372	7,457	1,576	166	9,199	672	6,186

1/ Classes estimated.

Table 41--Commercial calf slaughter and production

Year	Slaughter	Dressed weight	Production
	1,000 head	Pounds	Million pounds
1986			
I	873	148	129
II	836	154	129
III	859	150	129
IV	839	145	122
Year	3,408	149	509
1987			
I	760	147	112
II	651	155	101
III	684	145	99
IV	720	144	104
Year	2,815	148	416
1988			
I	647	150	97
II	567	162	92
III	664	149	99

to be unchanged from a year ago, increased heifer retention for herd rebuilding would sharply reduce supplies this fall and into the next couple of years. Tighter feeder cattle supplies, smaller profit margins, and higher feed costs likely will keep cattle feeders in a cautious mood in spite of expectations for a stronger market next spring. Fourth-quarter placements on feed are expected to total 6.4 to 6.5 million head, which is comparable to a year ago. These additions to feedlot inventories will not offset declines in medium weight

Table 42--Calf slaughter by class under Federal inspection

Year	Bob veal 150 lb & below	Fed, 150-400 lb		Other over 400 lb	Total
		Formula	Non- formula		
1,000 head					
1986	1,618.6	1,009.3	285.9	281.0	3,194.8
1987					
Jan.	115.9	87.1	15.1	29.5	247.6
Feb.	104.5	82.2	13.3	24.7	224.7
Mar.	120.5	90.2	13.8	26.6	251.1
Apr.	89.4	86.8	15.5	23.2	214.9
May	70.0	80.7	14.4	24.0	189.1
Jun.	81.3	94.2	13.3	25.7	214.5
Jul.	101.3	80.8	12.1	26.0	220.2
Aug.	101.6	64.2	14.8	21.8	202.4
Sept.	99.4	91.0	14.0	24.2	228.6
Oct.	102.8	85.6	19.3	25.4	233.1
Nov.	103.5	70.4	12.3	25.1	211.3
Dec.	117.6	89.5	13.5	21.3	241.9
Yr	1,207.8	1,002.7	171.4	297.5	2,679.4
1988					
Jan.	92.5	82.0	12.5	18.1	205.1
Feb.	95.9	94.0	18.0	16.9	224.8
Mar.	96.3	92.8	11.4	15.3	215.8
Apr.	65.3	78.7	10.8	14.3	169.1
May	58.1	80.7	17.1	15.4	171.3
Jun.	82.1	90.4	14.2	17.1	203.8
July	106.3	74.2	14.1	12.4	207.0
Aug.	111.7	86.3	12.2	16.7	226.9

cattle on feed at the beginning of the quarter, and should set the stage for smaller feedlot marketings beginning in late fall. Fed cattle prices should begin to move into the mid-\$70 range by spring, possibly peaking late in the second quarter near \$80 per cwt during some weeks.

Table 43--Great Plains custom cattle feeding: Selected costs at current rates 1/

Purchased during: Marketed during:	Dec. June	Jan. July	Feb. Aug.	Mar. Sept.	Apr. Oct.	May Nov.	June Dec.	July Jan.	Aug. Feb.	Sept. Mar.
Expenses: (\$/head)										
600 lb feeder steer	448.50	481.32	503.52	495.66	487.86	487.50	455.70	466.02	492.00	494.28
Transportation to feedlot (300 miles)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96
Commission	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Feed										
Milo (1500 lb) 2/	53.40	54.15	54.75	55.65	54.45	55.65	77.85	79.20	76.50	77.10
Corn (1500 lb) 2/	62.55	63.60	64.65	66.45	65.25	66.90	87.90	89.70	84.15	85.05
Cotton seed meal (400 lb)	55.60	52.40	52.40	52.40	48.80	48.80	48.80	57.60	57.60	57.60
Alfalfa hay (800 lb)	46.80	46.00	46.80	46.40	48.40	51.20	49.20	48.40	47.60	50.80
Total feed cost	218.35	216.15	218.60	220.90	216.90	222.55	263.75	274.90	265.85	270.55
Feed handling and management charge	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Vet medicine	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Interest on feeder and 1/2 feed	29.98	30.94	32.17	31.82	31.31	31.44	30.85	30.93	32.03	32.26
Death loss (1.5% of purchase)	6.73	7.22	7.55	7.43	7.32	7.31	6.84	6.99	7.38	7.41
Marketing 3/	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.
Total	734.51	766.59	792.81	786.78	774.34	779.76	788.09	809.80	828.22	835.47
Selling price required to cover: 4/ \$/cwt										
Feed and feeder cost (1056 lb)	63.15	66.05	68.38	67.86	66.74	67.24	68.13	70.16	71.77	72.43
All costs	69.56	72.59	75.08	74.51	73.33	73.84	74.63	76.69	78.43	79.12
Selling price 5/	71.31	66.88	70.08	69.96						
Net margin	1.75	-5.71	-5.00	-4.55						
Cost per 100 lb Gain:										
Variable cost										
less interest \$/cwt	49.82	49.47	50.03	50.47	49.64	48.85	57.48	60.88	59.45	60.39
Feed costs \$/cwt	43.67	43.23	43.72	44.18	43.38	42.59	51.31	54.68	53.17	54.11
Prices:										
Choice feeder steer										
600-700 lb Amarillo	74.75	80.22	83.92	82.61	81.31	81.25	75.95	77.67	82.00	82.38
Transportation rate \$/cwt/100 miles 6/	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Commission fee \$/cwt	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Milo \$/cwt	3.41	3.46	3.50	3.56	3.48	3.56	5.04	5.13	4.95	4.99
Corn \$/cwt	4.02	4.09	4.16	4.28	4.20	4.31	5.71	5.83	5.46	5.52
Cottonseed Meal (41%) \$/cwt 7/	13.90	13.10	13.10	13.10	12.20	12.20	12.20	14.40	14.40	14.40
Alfalfa hay \$/ton 8/	87.00	85.00	87.00	86.00	91.00	98.00	93.00	91.00	89.00	97.00
Feed handling and management \$/ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Interest, annual rate 9/	10.75	10.50	10.50	10.50	10.50	10.50	10.50	10.25	10.25	10.25

1/ Represents only what expenses would be if all selected items were paid for during the period indicated. The feed ration and expense items do not necessarily coincide with experience of individual feedlots. For individual use, adjust expenses and prices for management, production level, and locality of operation. Steers are assumed to gain 500 lb in 180 days at 2.8 lb per day with feed conversion of 8.4 lb per pound gain. 2/ Texas Panhandle elevator price plus \$0.15/cwt handling and transportation to feedlots. 3/ Most cattle sold f.o.b. at the feedlot with 4-percent shrink. 4/ Sale weight 1,056 lb (1,100 lb less 4-percent shrink). 5/ Choice slaughter steers, 900-1100 lb, Texas-New Mexico direct. 6/ Converted from cents per mile for a 44,000-lb haul. 7/ Average prices paid by farmers in Texas. 8/ Average price received by farmers in Texas plus \$30/ton handling and transportation to feedlots. 9/ Prime rate plus 2 points.

Table 44--Corn Belt cattle feeding: Selected costs at current rates 1/

Purchased during: Marketed during:	Dec. June	Jan. July	Feb. Aug.	Mar. Sept.	Apr. Oct.	May Nov.	June Dec.	July Jan.	Aug. Feb.	Sept. Mar.
Expenses: (\$/head)										
600 lb feeder steer	473.40	510.00	501.00	511.20	519.00	497.28	464.28	474.48	507.90	504.00
Transportation										
to feedlot-400 mile	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28
Corn (45 bu)	76.95	78.30	81.90	82.35	84.15	87.30	108.45	130.95	117.90	116.10
Silage (1.7 tons)	28.84	29.38	30.76	31.54	31.04	31.64	36.47	48.86	49.76	49.00
Protein supplement										
(270 lb)	34.43	37.26	37.26	37.26	35.91	35.91	35.91	44.28	44.28	44.28
Hay (400 lb)	10.20	10.40	10.90	11.40	10.80	10.80	11.40	17.20	19.60	19.30
Total feed costs	150.42	155.34	160.82	162.55	161.90	165.65	192.23	241.29	231.54	228.68
Labor (4 hours)	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72
Management (1 hr.) 2/	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86
Vet Medicine 3/	5.32	5.35	5.35	5.35	5.44	5.44	5.44	5.56	5.56	5.56
Interest on purchase										
(6 months)	25.80	27.03	26.55	27.09	28.03	26.85	25.07	27.28	29.20	29.98
Power, equip., fuel,										
shelter, deprec. 3/	24.81	24.94	24.94	24.94	25.38	25.38	25.38	25.91	25.91	25.91
Death loss										
(1% of purchase)	4.73	5.10	5.01	5.11	5.19	4.97	4.64	4.74	5.08	5.04
Transportation										
(100 miles)	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
Marketing expenses	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35
Miscellaneous and										
indirect costs 3/	10.73	10.79	10.79	10.79	10.98	10.98	10.98	11.21	11.21	11.21
Total	729.74	773.07	768.98	781.56	790.44	771.08	762.55	824.99	850.91	843.89
Selling price required										
to cover: (\$/cwt)										
Feed and feeder cost										
(1050 lb)	59.41	63.37	63.03	64.17	64.85	63.14	62.53	68.17	70.42	69.78
All costs (1050 lb)	69.50	73.63	73.24	74.43	75.28	73.44	72.62	78.57	81.04	80.37
Feed cost per 100 lb										
gain (450 lb)	33.43	34.52	35.74	36.12	35.98	36.81	42.72	53.62	51.45	50.82
Choice steers										
Omaha (900-1100 lb)	70.58	65.96	67.08	67.71						
Net margin	1.08	-7.67	-6.16	-6.72						
Prices:										
Feeder steer, Choice										
(600-700 lb) \$/cwt										
Kansas City \$/cwt	78.90	85.00	83.50	85.20	86.50	82.88	77.38	79.08	84.65	84.00
Corn \$/bu 4/	1.71	1.74	1.82	1.83	1.87	1.94	2.41	2.91	2.62	2.58
Hay \$/ton 4/	51.00	52.00	54.50	57.00	54.00	54.00	57.00	86.00	98.00	96.50
Corn silage \$/ton 5/	16.97	17.28	18.09	18.56	18.26	18.61	21.46	28.74	29.27	28.82
Protein supplement										
(32-36%) \$/cwt	12.75	13.80	13.80	13.80	13.30	13.30	13.30	16.40	16.40	16.40
Farm labor \$/hour	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93
Interest rate, annual	10.90	10.60	10.60	10.60	10.80	10.80	10.80	11.50	11.50	11.50
Transportation rate										
\$/cwt. per 100 mile	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Mktg. expenses										
\$/cwt 8/	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35
Index of prices										
paid by farmers										
(1910-14=100)	1132	1138	1138	1138	1158	1158	1158	1182	1182	1182

1/ Represents only what expenses would be if all selected items were paid for during the period indicated. The feed ration and expense items do not necessarily coincide with experience of individuals for management, production, and locality of operation. 2/ Assumes 1 hour at twice the labor rate. 3/ Adjusted quarterly by the index of prices paid by farmers for commodities, services, interest, taxes, and wage rates. 4/ Average price received by farmers in IA and IL. 5/ Price derived from an equivalent price of 5 bushels corn and 330 lb hay. 6/ Average price paid by farmers in IA and IL. 7/ Converted from cents/mile for a 44,000-lb haul. 8/ Yardage plus commission fees at a Midwest terminal market.

Table 45--Beef, Choice Yield Grade 3: Retail, carcass, and farm values, spreads, and farmers' share

Year	Retail price 1/	Gross carcass value 2/	By-product allowance 3/	Net carcass value 4/	Gross farm value 5/	By-product allowance 6/	Net farm value 7/	Farm retail-spread			
								Total	Carcass-retail	Farm-carcass	Farmers' share 8/
Cents per pound								Percent			
1982	242.5	152.8	2.1	150.7	155.5	15.0	140.5	102.0	91.8	10.2	58
1983	238.1	147.4	2.0	145.4	151.8	15.6	136.2	101.9	92.7	9.2	57
1984	239.6	150.6	3.0	147.6	158.6	18.6	140.0	99.6	92.0	7.6	58
1985	232.6	137.0	1.8	135.2	142.2	15.4	126.8	105.8	97.4	8.4	55
1986	230.7	134.3	1.2	133.1	140.0	15.6	124.4	106.3	97.6	8.7	54
1987	242.5	146.7	1.4	145.3	157.6	19.7	137.9	104.6	97.2	7.4	57
I	234.6	138.4	1.4	137.0	147.9	17.6	130.3	104.3	97.6	6.7	56
II	243.2	157.6	1.5	156.1	167.8	20.0	147.8	95.4	87.1	8.3	61
III	246.4	146.9	1.4	145.5	157.8	20.1	137.7	108.7	100.9	7.8	56
IV	245.9	144.2	1.5	142.7	156.9	21.0	135.9	110.0	103.2	6.8	55
1988											
Jan.	242.9	146.5	1.8	144.7	158.8	22.2	136.6	106.3	98.2	8.1	56
Feb.	246.3	149.9	1.7	148.3	166.0	22.8	143.2	103.1	98.0	5.1	58
Mar.	248.5	155.8	1.8	154.0	173.1	24.5	148.6	99.9	94.5	5.5	60
I	245.9	150.7	1.7	149.0	166.0	23.2	142.8	103.1	96.9	6.2	58
Apr.	250.2	158.4	1.7	156.7	176.7	24.3	152.4	97.7	93.4	4.3	61
May	253.2	168.0	1.8	166.2	181.9	23.3	158.6	94.6	87.0	7.6	63
June	259.9	160.1	1.9	158.2	170.1	22.0	148.1	111.8	101.6	10.1	57
II	254.4	162.2	1.8	160.4	176.2	23.2	153.0	101.4	94.0	7.3	60
July	259.3	146.4	1.8	144.6	159.9	22.0	137.9	121.3	114.7	6.7	53
Aug.	257.8	152.2	1.7	150.5	165.3	22.4	142.9	114.9	107.3	7.6	55
Sept.	259.7	155.3	1.7	153.6	166.3	20.5	145.8	113.8	106.0	7.8	56
III	258.9	151.3	1.7	149.6	163.9	21.6	142.2	116.7	109.3	7.4	55

1/ Estimated weighted-average of BLS prices of retail cuts from Choice Yield Grade 3 carcass. 2/ Value of carcass-quantity equivalent to 1 lb of retail cuts. A wholesale-carcass equivalent of 1.476 is used. 3/ Portion of gross carcass value attributed to fat and bone trim. 4/ Gross carcass value minus carcass by-product allowance. 5/ Market value to producer for 2.4 lb of live animal, equivalent to 1 lb of retail cuts. 6/ Portion of gross farm value attributed to edible and inedible by-products. 7/ Gross farm value minus farm by-product allowance. 8/ Percent net farm value is of retail price.

U.S. Beef Trade

U.S. Beef Imports

United States' imports of beef increased 9 percent to 1,786 million pounds, carcass weight, in January-August over last year. Imports for the year are forecast to reach 2,375 million pounds, up 5 percent. In 1989, imports may drop 7 percent due mainly to smaller supplies in exporting countries.

About 85-90 percent of imported beef is covered by the Meat Import Law, which includes fresh, chilled or frozen beef, veal, mutton, and goat meat. The trigger level for 1988 is 1,525 million pounds, product weight, up 6 percent from 1987. As of October 28, the U.S. Customs Service reported that imports subject to that law totaled 1,316 million pounds, product weight, up 3 percent from a year earlier.

To ensure that the Meat Import Law is not triggered, voluntary restraint agreements have been negotiated with Australia and New Zealand to limit exports to the United States to 800 and 445 million pounds, respectively, for the year. The Customs Service has reported that shipments from Australia from January through October 28 were 693 million pounds and from New Zealand 431 million pounds.

Dry weather in Australia in the beginning of the year increased slaughter, and favorable exchange rates and higher prices in the United States drew larger-than-expected exports

here. Pressure to export to the United States eased somewhat with the announcement of the liberalization of the Japanese market since Australia is also a major supplier of beef there.

Beef imports not subject to the Meat Import Law are primarily canned or in airtight containers mainly from Brazil and Argentina. Imports from Argentina are down 10 percent. Output of beef continues to drop in Argentina. Herds are being liquidated as real income is eroded by inflation and domestic demand falls. The shift continues from cattle to crops, given the increasing relative prices for corn and soybeans vis-a-vis cattle. Imports from Brazil were up 53 percent in January-August 1988. In Brazil, inflation is reducing consumers purchasing power. Exports began to expand in 1988 after being disrupted by economic reforms in 1986 and 1987. While output is forecast to increase, consumption is stagnant, depressing beef prices and giving a further boost to beef exports.

U.S. Beef Exports Rise

U.S. beef exports were up 11 percent to 406 million pounds, carcass weight, over last year during January-August. The main increase was to Japan, up 29 percent to 301 million pounds. Exports to Mexico climbed from 3 million pounds for the first 8 months of last year to 21 million pounds in 1988. Increased demand by the Japanese fueled the increase in the beginning of the year and the announced trade liberalization with Japan should increase exports this fall.

Table 46--U.S. beef trade, carcass weight 1/

Country or area	Annual 1987	January-August		Percent change
		1987	1988	
	Million pounds			Percent
Imports				
Australia	993.0	713.0	821.8	15.3
New Zealand	600.9	508.3	536.0	5.5
Canada	182.6	118.1	103.4	-12.5
Brazil	100.4	52.2	79.9	53.1
Argentina	189.1	134.9	120.8	-10.5
Central America	138.4	72.3	75.2	4.0
Other	64.9	38.8	48.6	25.3
Total	2,269.3	1,637.6	1,785.7	9.0
Exports				
Japan	396.7	223.1	301.2	35.0
Canada	30.9	19.8	29.2	47.5
Caribbean	21.6	13.6	14.3	5.9
Brazil	66.1	55.9	--	-100.0
Other	88.7	53.3	61.2	14.8
Total	604.0	365.7	405.9	11.0

1/ Data may not add due to rounding. Percent change calculated from unrounded data.

Table 47--U.S. live cattle trade 1/

Country or area	Annual 1987	January-August		Percent change
		1987	1988	
		1,000 head		Percent
Imports				
Mexico	937.9	644.6	732.0	13.6
Canada	262.1	185.2	290.0	56.2
Other	.5	.5	.4	-20.0
Total	1,200.5	830.8	1,022.4	23.1
Exports				
Mexico	48.0	30.7	120.6	292.8
Canada	33.3	15.4	10.7	-30.5
Other	49.4	28.9	29.2	1.4
Total	130.7	75.0	160.5	114.0

1/ May not add due to rounding. Percent change calculated from unrounded data.

U.S. beef exports are forecast at 636 million pounds, carcass weight, in 1988, up 5 percent. During 1989, they are forecast to climb by at least 5 percent, mainly because of increased sales to Japan.

Credit Programs Assist Cattle Exports

U.S. exports of live cattle to Mexico during January-August increased from 30,791 head in 1987 to 120,554 head in 1988. This past summer the U.S. Department of Agriculture authorized credit guarantees for sales to Mexico. Because of these credit programs, large numbers of cattle, sheep, hogs, and other live animals, as well as beef, have recently been exported to Mexico.

Total cattle exports for 1988 are forecast to reach 195,000 head, up 44 percent. Unless additional export guarantees are extended for 1989, exports of cattle are forecast to decline to 125,000 head.

Cattle Imports Increase

U.S. imports of cattle for the first 9 months of 1988 were 1 million head, up 23 percent from last year. Imports from Mexico started out strong then were banned by the Mexican Government. However as Mexican cattle exports stopped, imports to the United States from Canada increased. U.S. imports of Canadian cattle were up 56 percent over last year to 290,000 head, January-August. Imports from Mexico during the same period were up 14 percent to 732,000 head. Total imports for 1988 are forecast to reach 1.4 million head, up 19 percent. Next year imports should decline by about 4 percent.

The Mexican Government recently abolished the cattle export quota and established an export tax for feeder cattle. The new system is scheduled to take effect in November 1988 after which, depending on the relative prices, some movement of cattle into the United States will occur.

Sheep and Lambs

Commercial production of lamb and mutton for September was 28 million pounds, even with a year ago. Production for the third-quarter of 1988 totaled 80 million pounds or about 4 percent above 1987 levels. Commercial slaughter was below year-earlier levels in October. But higher slaughter weights were partially offsetting. This trend towards heavier weights is the main reason for increased lamb and mutton production this year. Commercial liveweights for the year to date are 4 percent above 1987 levels, while production is up only 1 percent. Fourth-quarter production is expected to be 2 percent above 1987 levels. Imports of lamb and mutton were up 34 percent through August compared to a year earlier. Lamb imports were up 12 percent and mutton imports increased 58 percent.

Table 48--Commercial sheep and lamb slaughter 1/ and production

Year	Lambs	Sheep	Total	Dressed weight	Production
	1,000 head			Pounds	Mil lb
1986					
I	1,438	72	1,510	60	90
II	1,246	97	1,343	58	78
III	1,324	80	1,404	58	81
IV	1,306	72	1,378	60	82
Year	3,514	321	5,635	59	331
1987					
I	1,213	57	1,270	60	76
II	1,211	79	1,290	58	75
III	1,241	75	1,316	59	77
IV	1,253	70	1,323	61	81
Year	4,918	281	5,199	59	309
1988					
I	1,292	62	1,354	63	85
II	1,177	82	1,259	64	80
III	1,255	81	1,336	60	80

1/ Classes estimated.

Mature sheep slaughter is up slightly for the year at 5.7 percent of total compared with 5.4 percent last year. This level is still below liquidation rates of above 7 percent.

Production is expected to increase another 2 percent above 1988 in 1989 to 335 million pounds. Production may be the largest in the first quarter because the spring religious holidays are in the early part of the second quarter this year.

Per capita consumption of lamb and mutton is expected to remain below 1.5 pounds again next year.

Third-quarter lamb prices at San Angelo were 20 percent below a year earlier. Fourth-quarter prices are expected to increase slightly to around \$60 from the third-quarter low of \$58.70. San Angelo slaughter prices are expected to average \$66 to \$68 in 1988. Next year, prices for slaughter lambs are expected to average \$63-\$69 as production continues to increase.

Table 49--Red meat supply and utilization, carcass and retail weight 1/

Year	Production		Begin- ning stocks	Im- ports	Total supply	Ex- ports	Ship- ments	Ending stocks	Total disap- pearance	Per capita	
	Commer- cial	Farm								Carcass weight	Retail weight
Million pounds											
Pounds											
Beef:											
1987											
I	5,754	56	412	543	6,764	127	14	411	6,213	25.6	18.1
II	5,737	25	411	627	6,800	136	13	337	6,315	25.9	18.4
III	6,064	24	337	681	7,106	159	14	381	6,552	26.8	19.0
IV	5,850	56	381	418	6,705	183	12	386	6,125	25.0	17.8
Year	23,405	161	412	2,269	26,247	604	52	386	25,205	103.3	73.4
1988 2/											
I	5,696	56	386	703	6,841	134	15	419	6,272	25.6	18.1
II	5,784	25	419	668	6,896	156	15	330	6,395	25.9	18.4
Year	23,291	161	386	2,375	26,213	636	61	375	25,141	102.2	72.5
1989 2/											
Year	21,700	161	375	2,200	24,436	670	60	325	23,381	94.2	66.8
Pork:											
1987											
I	3,540	22	248	290	4,100	19	31	289	3,762	15.5	14.6
II	3,327	9	289	296	3,921	27	28	245	3,620	14.9	14.1
III	3,384	9	245	299	3,938	21	33	244	3,639	14.9	14.1
IV	4,061	22	244	310	4,637	42	32	347	4,216	17.2	16.3
Year	14,312	62	248	1,195	15,817	109	124	347	15,237	62.5	59.1
1988 2/											
I	3,787	22	347	310	4,466	25	30	419	3,992	16.3	15.3
II	3,726	9	419	287	4,441	60	35	439	3,907	15.9	15.0
Year	15,611	62	347	1,210	17,230	190	135	425	16,480	66.9	63.2
1989 2/											
Year	15,700	62	425	1,200	17,387	130	140	300	16,817	67.7	63.6
Veal:											
1987											
I	112	5	7	6	130	2	0	6	122	0.5	0.4
II	101	1	6	4	112	2	0	4	106	0.4	0.4
III	99	2	4	6	111	1	0	4	107	0.4	0.4
IV	104	5	4	8	121	2	0	4	115	0.5	0.4
Year	416	13	7	24	460	7	1	4	449	1.8	1.5
1988 2/											
I	97	5	4	9	115	2	0	5	108	0.4	0.4
II	92	1	5	4	102	3	0	5	94	0.4	0.3
Year	398	13	4	26	441	9	1	5	426	1.7	1.4
1989 2/											
Year	400	13	5	25	443	9	1	5	428	1.7	1.4
Lamb and Mutton:											
1987											
I	76	2	13	13	104	0	1	14	89	0.4	0.3
II	75	1	14	12	101	0	1	12	88	0.4	0.3
III	77	1	12	9	99	0	1	7	91	0.4	0.3
IV	81	2	7	11	101	1	0	8	92	0.4	0.3
Year	309	6	13	44	372	1	2	8	360	1.5	1.3
1988 2/											
I	85	2	8	19	114	0	0	7	107	0.4	0.4
II	80	1	7	15	103	0	1	9	93	0.4	0.3
Year	328	6	8	55	397	1	1	9	386	1.6	1.4
1989 2/											
Year	335	6	9	60	410	1	0	9	400	1.6	1.4
Total red meat:											
1987											
I	9,482	85	680	851	11,098	148	45	719	10,186	41.9	33.5
II	9,240	36	719	939	10,934	165	42	599	10,128	41.6	33.2
III	9,624	36	599	995	11,254	182	48	635	10,389	42.5	33.8
IV	10,096	85	635	748	11,564	227	45	744	10,548	43.1	34.8
Year	38,442	242	680	3,533	42,897	722	179	744	41,251	169.1	135.3
1988 2/											
I	9,665	85	745	1,041	11,536	161	46	850	10,479	42.7	34.2
II	9,682	36	850	974	11,542	219	51	783	10,489	42.7	34.2
Year	39,628	242	745	3,666	44,281	836	198	814	42,433	172.4	138.5
1989 2/											
Year	38,135	242	814	3,485	42,676	810	201	639	41,026	165.2	133.4

1/ May not add due to rounding. 2/ Forecast.

Table 50--Poultry supply and utilization

Year	Slaughter			Begin- ning stocks	Total supply	Ex- ports	Ship- ments	Ending stocks	Total disap- pearance	Per capita Retail weight
	Feder- ally Inspected	Other	Total							

Young chicken:				Million pounds				Pounds		
1987										
I	3,735	27	3,762	24	3,786	142	39	25	3,579	14.7
II	3,907	26	3,933	25	3,958	198	32	24	3,704	15.2
III	3,966	17	3,984	24	4,008	223	40	28	3,717	15.2
IV	3,895	21	3,916	28	3,944	188	40	25	3,691	15.1
Year	15,502	92	15,594	24	15,618	752	151	25	14,691	60.2
1988 2/										
I	3,996	25	4,021	25	4,046	163	37	36	3,810	15.5
II	4,079	26	4,105	36	4,141	190	38	40	3,873	15.7
Year	16,160	99	16,259	25	16,284	713	146	30	15,395	62.5
1989 2/										
Year	16,850	100	16,950	30	16,980	665	140	25	16,150	65.0
Other chicken:										
1987										
I	133	24	157	163	320	5	1	172	143	0.6
II	155	28	183	172	355	6	1	182	167	0.7
III	129	23	152	182	333	3	0	166	165	0.7
IV	135	24	158	166	324	2	1	188	133	0.5
Year	552	98	650	163	814	15	2	188	608	2.5
1988 2/										
I	153	27	181	188	369	6	0	197	166	0.7
II	150	27	177	197	373	4	1	157	211	0.9
Year	540	96	636	188	825	20	3	150	651	2.6
1989 2/										
Year	550	98	648	150	798	18	4	150	626	2.5
Total chicken:										
1987										
I	3,868	51	3,919	187	4,106	147	40	197	3,722	15.3
II	4,062	54	4,116	197	4,313	204	32	206	3,871	15.9
III	4,095	41	4,135	206	4,341	226	40	194	3,881	15.9
IV	4,030	44	4,074	194	4,268	191	41	213	3,824	15.6
Year	16,054	190	16,245	187	16,432	767	153	213	15,298	62.8
1988 2/										
I	4,149	52	4,201	213	4,415	169	37	202	3,976	16.2
II	4,229	53	4,282	233	4,514	194	39	197	4,084	16.6
Year	16,700	195	16,895	213	17,109	733	147	180	16,046	65.1
1989 2/										
Year	17,400	198	17,598	180	17,778	683	144	175	16,801	67.5
Turkey:										
1987										
I	670	19	689	178	867	6	0	226	635	2.6
II	865	26	891	226	1,117	7	0	382	728	3.0
III	1,100	32	1,132	382	1,514	7	0	641	866	3.5
IV	1,082	34	1,116	641	1,756	13	3	282	1,458	6.0
Year	3,717	111	3,828	178	4,006	33	4	282	3,686	15.1
1988 2/										
I	837	24	860	282	1,143	13	1	353	776	3.2
II	980	21	1,001	353	1,354	11	0	467	875	3.6
Year	3,937	107	4,044	282	4,327	45	3	150	4,128	16.8
1989 2/										
Year	4,050	120	4,170	150	4,320	36	4	175	4,105	16.5
Total Poultry:										
1987										
I	4,538	70	4,608	365	4,973	153	40	423	4,357	17.9
II	4,927	80	5,007	423	5,430	211	32	588	4,599	18.9
III	5,195	73	5,268	588	5,855	232	41	835	4,747	19.5
IV	5,112	78	5,190	835	6,025	204	44	495	5,282	21.6
Year	19,772	301	20,072	365	20,437	800	157	495	18,985	77.8
1988 2/										
I	4,986	76	5,062	495	5,557	182	38	585	4,751	19.4
II	5,209	74	5,283	585	5,868	206	39	665	4,959	20.2
Year	20,637	303	20,940	495	21,436	779	152	330	20,174	81.9
1989 2/										
Year	21,450	318	21,768	330	22,098	719	148	350	20,881	84.1

1/ May not add due to rounding. 2/ Forecast.

Table 51--Total red meat and poultry supply and utilization, carcass and retail weight 1/

Year	Total produc- tion	Begin- ning stocks	Im- ports	Total supply	Ex- ports	Ship- ments	Ending stocks	Total disap- pearance	Per capita	
									Carcass weight	Retail weight
<hr/>										
Total red meat and poultry:								Pounds		
1987								Million pounds		
I	14,175	1,045	851	16,071	301	86	1,142	14,543	59.8	51.5
II	14,283	1,142	939	16,364	376	74	1,186	14,728	60.5	52.0
III	14,928	1,186	995	17,109	414	88	1,470	15,136	62.0	53.3
IV	15,371	1,470	748	17,589	431	88	1,240	15,830	64.7	56.4
Year	58,756	1,045	3,533	63,334	1,522	336	1,240	60,236	247.1	213.2
1988 2/										
I	14,812	1,240	1,041	17,093	343	84	1,435	15,222	62.0	53.5
II	15,003	1,435	974	17,410	425	90	1,448	15,448	62.8	54.3
Year	60,810	1,240	3,666	65,716	1,615	350	1,144	62,607	254.3	220.5
1989 2/										
Year	60,145	1,144	3,485	64,774	1,529	349	989	61,907	249.3	217.4

1/ May not add due to rounding. 2/ Forecast.

Table 52--Average retail price per pound of specified meat cuts

Year and item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dollars												
Choice Beef:												
Ground chuck												
1987	1.69	1.65	1.68	1.70	1.70	1.71	1.71	1.72	1.72	1.71	1.74	1.75
1988	1.74	1.74	1.75	1.74	1.74	1.77	1.75	1.74	1.77			
Ground beef												
1987	1.30	1.27	1.28	1.29	1.32	1.30	1.31	1.32	1.32	1.33	1.35	1.32
1988	1.31	1.32	1.34	1.34	1.36	1.39	1.37	1.37	1.37			
Chuck roast, bone in												
1987	1.68	1.64	1.63	1.70	1.65	1.71	1.70	1.66	1.67	1.72	1.71	1.66
1988	1.64	1.74	1.69	1.72	1.80	1.78	1.70	1.67	1.74			
Round roast, boneless												
1987	2.54	2.47	2.49	2.45	2.59	2.56	2.50	2.51	2.57	2.58	2.58	2.56
1988	2.56	2.61	2.67	2.60	2.61	2.66	2.63	2.64	2.64			
Rib roast, bone in												
1987	3.44	3.44	3.37	3.29	3.48	3.64	3.69	3.67	3.60	3.63	3.64	3.57
1988	3.57	3.59	3.66	3.75	3.72	3.93	4.02	4.04	4.12			
Round steak, boneless												
1987	2.80	2.80	2.76	2.81	2.94	2.96	2.91	2.93	2.92	2.96	2.92	2.93
1988	2.88	2.94	2.94	3.01	3.00	3.05	2.99	2.99	3.04			
Sirloin steak, bone in												
1987	2.81	2.96	2.87	3.02	3.22	3.44	3.36	3.23	3.26	3.12	3.15	3.16
1988	2.99	3.04	3.12	3.18	3.35	3.49	3.54	3.39	3.45			
Chuck steak, bone in												
1987	1.71	1.65	1.64	1.69	1.59	1.62	1.62	1.61	1.61	1.61	1.62	1.62
1988	1.61	1.62	1.64	1.65	1.67	1.71	1.70	1.69	1.70			
T-Bone steak, bone in												
1987	3.86	3.79	3.83	4.01	4.33	4.64	4.77	4.45	4.37	4.31	4.29	4.27
1988	4.31	4.27	4.33	4.43	4.54	4.90	5.18	5.20	4.86			
Porterhouse steak, bone in												
1987	4.22	4.19	4.22	4.26	4.36	4.44	4.44	4.42	4.39	4.40	4.44	4.43
1988	4.40	4.43	4.48	4.51	4.56	4.66	4.63	4.60	4.64			
Pork:												
Bacon, sliced												
1987	2.12	2.09	2.10	2.08	2.11	2.13	2.23	2.28	2.28	2.19	2.07	2.02
1988	1.95	1.94	1.92	1.91	1.90	1.90	1.91	1.88	1.84			
Chops, center cut												
1987	2.72	2.70	2.64	2.74	2.78	2.97	3.01	3.00	2.98	2.92	2.74	2.67
1988	2.66	2.72	2.68	2.71	2.78	2.93	2.90	2.87	2.90			
Ham, rump or shank half												
1987	1.60	1.59	1.50	1.36	1.44	1.50	1.52	1.56	1.58	1.62	1.65	1.60
1988	1.63	1.57	1.60	1.58	1.58	1.62	1.62	1.62	1.61			
Sirloin roast, bone in												
1987	1.90	1.82	1.81	1.89	1.92	1.95	2.02	2.04	2.05	2.01	1.95	1.91
1988	1.92	1.90	1.90	1.88	1.89	1.94	1.93	1.93	1.92			
Shoulder picnic, bone in												
1987	1.15	1.10	1.06	1.03	1.08	1.03	1.11	1.14	1.16	1.19	1.16	1.16
1988	1.14	1.13	1.14	1.12	1.09	1.15	1.13	1.11	1.11			
Sausage, fresh, pork, loose												
1987	2.01	2.02	1.99	1.97	1.98	1.94	2.00	2.02	2.01	1.92	1.97	1.99
1988	2.05	1.97	1.99	2.02	2.02	1.95	1.99	1.94	1.95			
Miscellaneous cuts:												
Ham, canned, 3 or 5 lb												
1987	2.84	2.85	2.83	2.77	2.74	2.76	2.83	2.84	2.83	2.85	2.78	2.72
1988	2.77	2.75	2.71	2.73	2.74	2.73	2.77	2.73	2.74			
Frankfurters, all meat												
1987	1.98	1.99	1.96	1.98	1.96	2.00	1.91	2.01	1.98	2.04	2.04	2.02
1988	2.02	2.04	2.05	2.01	2.02	2.02	2.01	2.02	2.00			
Bologna												
1987	2.22	2.17	2.19	2.15	2.14	2.15	2.21	2.21	2.21	2.20	2.21	2.24
1988	2.24	2.23	2.23	2.20	2.18	2.24	2.26	2.29	2.25			
Beef liver												
1987	1.02	1.00	1.03	1.02	1.04	1.03	1.03	1.03	1.03	1.05	1.02	1.03
1988	1.01	1.01	1.02	1.04	1.04	1.06	1.06	1.04	1.06			

Table 53--Selected price statistics for meat animals and meat, 1987-88

Item	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Dollars per cwt											
Slaughter Steers:											
Omaha											
Choice, 1000-1100 lb	64.20	63.93	65.00	68.31	71.53	72.71	75.15	70.58	65.96	67.08	67.71
Select, 1000-1100 lb	59.50	59.25	63.14	65.84	69.12	71.14	72.86	67.57	63.58	64.88	64.76
California											
Choice, 1000-1100 lb	65.88	65.15	65.58	69.00	71.05	72.38	74.00	69.73	67.38	70.75	70.06
Colorado											
Choice, 1000-1100 lb	66.87	65.48	66.48	70.08	71.52	nq	na	nq	nq	66.55	nq
Texas											
Choice, 1000-1100 lb	67.09	66.12	67.30	70.53	72.29	73.96	76.06	71.31	66.88	70.08	69.96
Slaughter heifers:											
Omaha											
Choice, 1000-1200 lb	63.79	63.63	65.07	68.05	71.19	72.79	74.88	69.90	65.41	67.24	68.10
Select, 900-1000 lb	60.63	60.22	62.13	64.71	67.48	68.84	70.71	65.65	61.54	63.15	63.18
Cows:											
Omaha											
Commercial	44.56	46.20	45.09	46.16	47.30	49.35	49.33	42.70	44.69	46.40	46.54
Breaking Utility	44.83	46.69	45.90	47.32	48.43	49.41	48.79	42.68	45.39	47.33	48.42
Boning Utility	38.97	41.30	47.83	49.55	49.83	49.50	49.16	43.68	46.60	48.57	49.50
Canner	38.97	41.30	42.28	44.10	43.28	43.97	42.31	38.16	40.24	40.00	41.02
Cutter	42.93	45.31	46.52	48.91	48.50	48.60	47.69	42.49	43.95	43.73	45.33
Vealers: 7/											
Choice, So. St. Paul	82.50	83.00	86.88	87.50	87.50	96.41	97.66	100.88	77.50	87.50	240.42
Feeder steers: 1/											
Kansas City											
Medium No. 1,											
400-500 lb	89.33	87.30	94.25	97.83	99.20	101.63	94.50	90.50	85.75	nq	93.75
600-700 lb	79.50	78.90	85.00	83.53	85.20	86.50	82.88	77.38	79.08	84.65	84.00
All weights and grades	74.92	73.69	80.26	81.64	83.12	82.61	78.99	70.77	74.14	79.45	79.89
Okla. City											
Medium No. 1											
400-500 lb	95.05	95.69	96.96	104.42	101.70	105.03	102.33	93.98	95.89	99.74	97.75
600-700	79.99	80.97	83.73	85.99	85.63	86.29	85.67	78.59	80.69	81.79	81.30
700-800	77.10	78.06	81.29	82.25	81.47	79.87	79.90	74.83	77.77	86.21	83.97
Amarillo											
Medium No. 1,											
600-700 lb	73.84	74.75	80.22	83.92	82.61	81.31	81.25	75.95	77.67	82.00	82.38
Georgia Auctions											
Medium No. 1,											
600-700 lb	72.13	71.67	77.75	81.75	82.60	80.13	79.88	72.60	75.67	78.20	77.75
Medium No. 2,											
400-500 lb	78.50	77.33	82.88	88.50	89.30	88.38	85.25	76.40	81.67	82.20	81.25
Feeder heifers:											
Medium No. 1,											
Kansas City											
400-500 lb	78.67	80.20	86.50	86.38	88.60	89.56	87.63	nq	77.75	nq	85.81
600-700 lb	74.83	74.20	76.00	77.35	78.10	76.88	77.25	72.75	72.63	78.70	78.50
Okla. City											
400-500 lb.	83.56	81.53	83.08	88.39	89.05	90.72	91.44	79.86	81.77	85.59	84.29
600-700 lb.	72.32	73.37	76.75	78.49	77.91	76.15	76.71	71.75	74.68	77.96	77.04
Slaughter hogs:											
Barrows and gilts											
Omaha No. 1 & 2,											
230-240 lb	42.07	42.71	46.41	48.55	43.93	42.59	48.93	49.50	46.92	47.17	41.00
All weights	40.57	41.35	44.61	46.78	42.62	41.95	47.51	47.80	45.31	45.71	40.78
Sioux City	40.74	41.56	44.59	48.50	43.19	42.28	47.75	48.26	45.60	45.98	41.28
7 markets 2/	40.65	41.14	44.43	47.01	42.79	42.10	47.55	48.06	45.57	46.10	41.04
Sows:											
7 markets 2/	35.12	32.96	34.18	36.98	35.03	35.51	37.68	33.91	31.79	34.01	32.89
Feeder pigs:											
No. 1 & 2, So. Mo.,											
40-50 lb (per hd.)	36.56	31.74	37.47	44.80	48.65	52.16	46.85	31.40	25.57	27.40	28.30

Continued--

Table 53--Selected price statistics for meat animals and meat, 1987-88--Continued

Item	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Dollars per cwt											
Slaughter lambs:											
Choice, San Angelo	65.00	73.83	83.53	77.25	83.75	76.50	72.67	59.38	59.00	57.05	61.00
Choice, So. St. Paul	66.30	74.49	83.88	80.18	76.40	69.85	71.73	56.70	58.55	54.05	57.28
Ewes, Good,											
San Angelo	37.83	39.88	43.19	38.25	41.17	40.17	36.38	36.30	37.83	38.20	37.38
So. St. Paul	22.00	22.00	25.00	22.25	18.98	17.33	11.45	11.08	12.94	13.00	13.10
Feeder lambs:											
Choice, San Angelo	99.50	105.83	113.63	112.63	111.30	100.25	90.63	77.80	79.67	79.05	78.56
Choice, So. St. Paul	95.63	102.08	111.00	108.63	102.50	88.25	83.50	71.10	62.14	59.00	64.65
Farm prices:											
Beef cattle	62.00	62.20	65.40	67.40	68.30	69.00	69.30	65.00	63.20	65.90	67.20
Calves	82.90	83.00	88.20	92.60	93.50	93.20	93.40	84.90	87.70	90.90	89.00
Hogs	40.60	40.30	43.00	45.80	42.20	41.90	46.30	47.10	44.10	44.70	40.70
Sheep	30.90	32.30	34.70	30.10	29.70	26.00	26.10	23.20	25.00	25.30	25.90
Lambs	65.70	72.80	80.70	80.40	80.20	74.80	72.60	60.20	60.00	59.80	64.30
Meat prices:											
Wholesale											
Central U.S. markets											
Steer beef, Choice,											
600-700 lb	95.34	94.50	97.15	99.50	103.47	105.25	111.70	106.38	97.09	101.04	103.15
Heifer beef, Choice											
550-700 lb	94.16	93.73	96.60	98.98	103.19	104.97	111.20	104.92	96.28	100.37	102.82
Cow beef, Canner											
and Cutter	83.41	88.45	88.98	92.18	90.33	89.69	89.88	81.28	85.74	86.51	87.73
Boxed beef											
cut-out value	102.62	101.82	102.55	105.94	108.50	110.79	116.73	111.97	107.09	110.37	112.72
Pork loins											
14-18 lb 4/	80.35	84.70	102.43	94.93	87.82	94.03	112.75	111.31	104.96	106.88	97.92
Pork bellies,											
12-14 lb	45.86	42.60	51.82	48.40	45.32	43.13	46.09	45.51	40.84	37.48	33.28
Hams, skinned,											
14-17 lb	96.36	91.98	66.70	76.67	78.35	68.27	67.70	66.51	65.90	67.16	73.20
Pork cut-out value	60.70	60.45	61.65	62.01	58.36	57.86	63.76	64.69	60.59	61.21	58.34
East Coast:											
Lamb, Choice and											
Prime, 35-45 lb	145.38	153.30	161.88	165.00	167.03	156.25	153.75	128.50	128.75	127.00	130.50
55-65 lb	129.56	144.90	156.88	151.25	153.37	141.25	141.38	125.00	128.75	127.00	130.50
West Coast:											
Steer beef, Choice,											
600-700 lb	nq	nq	nq	nq	nq	nq	nq	nq	nq	nq	nq
Cents per lb.											
Retail Prices:											
Beef											
Choice	246.6	245.3	242.9	246.3	248.5	250.2	253.2	259.9	259.3	257.8	259.7
All Fresh	217.7	218.6	213.9	217.6	220.0	219.7	221.5	227.2	226.1	224.3	225.4
Pork	189.2	185.6	185.3	183.1	183.3	182.9	183.6	187.9	187.4	185.5	184.9
1982-84=100											
Price indexes: (BLS)											
Retail meats	111.1	110.4	110.1	110.2	109.8	110.8	111.7	113.8	113.4	113.2	113.4
Beef and veal	108.6	108.5	107.7	108.5	109.8	110.5	111.7	114.1	113.4	112.7	113.6
Pork	115.5	113.1	113.4	112.3	112.6	111.4	111.7	114.6	114.3	114.1	113.7
Other meats	112.2	112.1	112.1	112.3	112.0	111.5	112.3	113.0	113.2	113.9	113.3
Poultry	107.9	107.8	108.9	108.4	109.1	110.2	114.0	120.1	129.0	131.7	133.4
Livestock-feed ratios,											
Omaha: 3/											
Steer-corn	38.4	36.7	36.4	37.4	38.4	39.3	38.6	27.9	24.5	26.2	26.4
Hog-corn	24.3	23.8	25.0	25.7	23.0	22.5	24.3	18.9	16.8	17.8	15.9

1/ Reflects new feeder cattle grades. 2/ St. Louis N.S.Y., Kansas City, Omaha, Sioux City, So. St. Joseph, So. St. Paul, and Indianapolis. 3/ Beef, Choice 2-3 550-700 lb. 4/ Prior to 1984, 8-14 lb; 1984 and 1985, 14-17 lb; 1986, 14-18 lb. 5/ U.S. #2, 175 lb carcass. 6/ Bushels of No. 2 yellow corn equivalent in value to 100 pounds live weight. 7/ Beginning Sept. 10, prices reported per head.

Table 54--Selected marketings, slaughter, stocks, and trade for meat animals and meat

Item	1987			1988								
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1,000 head												
Federally inspected:												
Slaughter												
Cattle	3,024	2,640	2,793	2,832	2,679	2,813	2,707	2,803	2,983	2,897	3,120	2,927
Steers	1,460	1,260	1,373	1,419	1,360	1,394	1,408	1,469	1,506	1,451	1,525	1,397
Heifers	929	784	836	864	792	868	800	827	888	901	1,011	966
Cows	573	547	535	503	480	498	449	481	533	498	527	507
Bulls and stags	62	49	49	46	47	53	50	54	56	48	57	57
Calves	233	211	242	205	203	216	169	171	204	207	227	207
Sheep and lambs	446	399	439	380	408	535	388	414	413	387	442	452
Hogs	7,519	7,121	7,583	6,803	6,518	7,505	6,929	6,713	6,715	6,199	7,101	7,534
Percentage sows	4.0	3.9	3.8	4.2	4.4	4.0	3.8	4.3	5.5	5.8	5.8	5.0
Pounds												
Average live wt per head												
Cattle	1,123	1,126	1,128	1,123	1,122	1,120	1,109	1,105	1,108	1,116	1,126	1,134
Calves	241	233	231	239	250	242	258	272	258	236	242	252
Sheep and lambs	123	122	124	123	125	129	128	127	125	121	120	121
Hogs	249	252	250	248	247	247	249	250	250	249	247	248
Average dressed wt												
Beef	677	671	670	671	669	670	667	665	665	670	679	683
Veal	146	142	142	145	153	147	157	165	158	146	147	154
Lamb and mutton	62	62	62	62	63	66	65	64	63	61	60	61
Pork	177	180	179	179	178	178	179	180	180	179	177	177
Million pounds												
Production												
Beef	2,038	1,766	1,865	1,893	1,784	1,878	1,798	1,874	1,976	1,934	2,111	1,993
Veal	33	29	34	29	30	31	26	28	32	29	33	31
Lamb and mutton	27	25	27	23	26	35	25	26	26	23	27	27
Pork	1,329	1,278	1,352	1,214	1,156	1,331	1,236	1,203	1,203	1,105	1,251	1,330
Commercial: 1/												
Slaughter												
Cattle	3,131	2,751	2,899	2,921	2,758	2,896	2,784	2,908	3,067	2,982	3,206	3,011
Calves	246	222	252	214	210	223	176	179	212	215	234	215
Sheep and Lambs	460	412	451	390	416	548	404	427	428	405	462	469
Hogs	7,700	7,321	7,813	6,977	6,682	7,680	7,090	6,881	6,898	6,365	7,284	7,715
Million pounds												
Production												
Beef	1,851	1,958	2,017	2,007	2,040	2,098	1,828	1,924	1,943	1,982	2,162	2,042
Veal	36	32	36	32	32	33	28	30	34	31	35	33
Lamb and mutton	28	25	28	24	26	35	26	27	27	24	28	28
Pork	1,359	1,312	1,390	1,244	1,183	1,360	1,263	1,231	1,232	1,133	1,281	1,359
Cold storage stocks: 2												
Beef	308	304	289	312	328	312	304	273	247	265	291	306
Veal	4	5	4	5	5	5	5	5	4	4	3	3
Lamb and mutton	7	9	8	8	8	7	8	8	9	9	7	7
Pork	212	252	285	287	308	346	396	389	363	337	287	290
Total meat	576	614	623	656	693	716	758	720	669	666	630	645
Trade:												
Imports (carcass wt)												
Beef	188.5	133.9	96.0	275.4	190.9	236.5	218.5	193.8	255.6	185.2	229.9	
Veal	5.5	1.9	1.1	4.1	2.5	2.9	1.7	1.1	1.2	1.3	1.6	
Lamb and mutton	2.6	2.4	2.4	7.1	5.9	6.2	6.0	4.9	3.5	2.6	3.1	
Pork	111.3	102.5	96.0	89.7	104.9	115.5	92.9	95.2	99.0	94.3	94.2	
Exports (carcass wt)												
Beef	63.7	67.1	51.9	43.4	40.3	50.0	52.3	51.1	52.2	50.6	66.1	
Veal	.5	.5	.4	.3	.4	.2	.6	.8	1.2	.6	1.3	
Lamb and mutton	.2	.1	.1	.1	.1	.1	.1	.1	.1	.3/	3/	
Pork	12.2	16.5	13.5	8.1	7.8	9.4	16.0	21.5	22.5	17.6	18.3	

1/ Federally inspected and other commercial. 2/ End of month. Beginning January 1977, excludes beef and pork stocks in cooler. 3/ Less than 50,000 lbs.

THE DYNAMICS OF U.S. EGG PRODUCTION: A REGIONAL PERSPECTIVE

by Robert V. Bishop and Lee A. Christensen

Introduction

The U.S. egg industry is undergoing numerous changes as it responds to significant changes in consumer demand, technology, and production costs. This paper examines trends in the industry and regional production patterns over the past 30 years.

The U.S. egg industry is nationwide, with each firm run according to individual management style and production technique. Location also plays an important role in both the day-to-day operations and the longer-term strategic planning of the individual firms. Although the producers differ significantly, they face common issues and challenges.

Overview of U.S. Egg Production

U.S. production of all eggs (table and hatching types) ranged from about 62 to 70 billion eggs per year (5.17 to 5.83 billion dozen) during the 1960 to 1987 period. The 1960's were characterized by generally strong production growth, while the 1970's found considerable volatility in output. In 1973, production was sharply curtailed due to two unrelated but extremely important events. From late 1971 to 1973, an outbreak of exotic Newcastle disease in California depopulated that State's laying flock. Over the same period, the Nixon Administration's wage and price controls (initiated in August 1971) were in effect, and profitability, both current and expected, was sharply curtailed. These factors played the crucial role in reducing production by 4 percent in

1972 and a further 11 percent in 1973, when producers also faced sharp cost increases for poultry feed. Total U.S. production did not reach the levels of the late-1960's until the end of the 1970's.

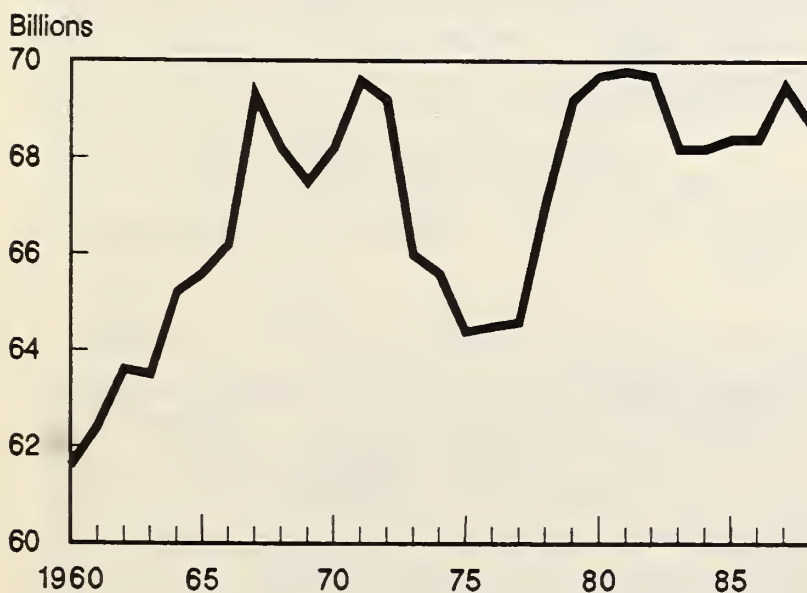
Total egg production during the 1980's has been near that of the mid- to late-1960's, but important changes have occurred within the industry over the past two decades. These include the location of production facilities, dramatic improvements in the laying efficiencies (rate of lay) of the flock, and, perhaps most importantly, increased concentration of production.

In 1960, the average number of eggs produced per hen per year was 209, and by 1987 it had increased nearly 19 percent to 248. Monthly egg production numbers very clearly indicate that by the 1980's, most of the seasonality in output had been removed. These advancements are attributed to improved genetic strains (breeding) and better management techniques. Technological innovations the past two decades, have affected how the hens are housed, the way eggs are handled, as well as the previously mentioned increases in laying efficiency. Very large in-line complexes, some housing one million or more hens, are responsible for an increasing share of production. Also, the largest firms control greater numbers of hens.

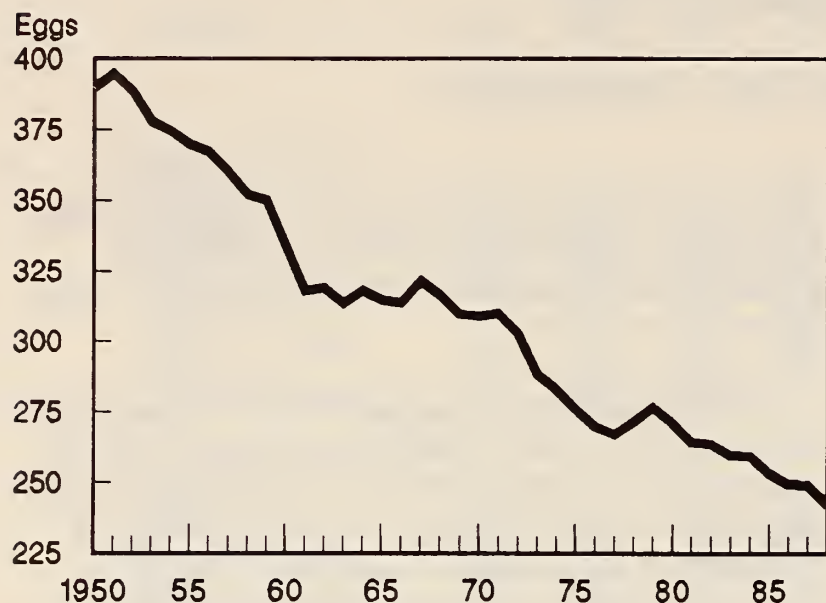
Overall Trends in Egg Production And Consumption

U.S. egg producers have faced declining per capita consumption of their product for decades. Per capita egg consumption (shell eggs and shell egg equivalent of products) fell from a war-inflated peak of 402 in 1945, to 389 eggs in 1948 and to an estimated 246 in 1988. The overall growth in the U.S. population and the very large rise in chicken consumption, which caused sharp increases in hatching egg production, have pushed total egg production in 1988 to near the level of the late-1960's, in spite of the dramatic drop in the per capita consumption numbers. Examining total production, hatching use, and total egg consumption for 1988 and 1968 is particularly revealing. Estimated production during 1988 (all table and hatching eggs) is 5,729 million dozen, about 49 million dozen above 1968 production. Hatching use during 1988 is expected to be 607 million dozen (about 11 percent of total egg production), 245 million dozen more hatching eggs than in 1968. However, consumption of all eggs (shell and shell egg equivalent of egg products) for 1988 is 322 million dozen below that of 1968.

U.S. Egg Production



U.S. Per Capita Egg Consumption



Why has per capita egg consumption fallen year after year? Commonly cited reasons include fewer people living on farms, more two-worker households, and greater competition for the breakfast meal. Trends toward easy to fix breakfasts with fewer calories or no breakfast at all also reduce egg consumption. Cooking eggs for breakfast and the clean up loses out to the convenience of a bowl of cereal. This provides a challenge to the egg industry, which must develop new, easy to prepare products for breakfast as well as for other meals. Following the advice of the American Heart Association to reduce the level of serum cholesterol, many Americans have made a conscious effort to reduce their consumption of dietary cholesterol, including eggs. One large egg contains 274 milligrams of cholesterol according to

USDA's Agriculture Handbook 8-1, published 12 years ago. Preliminary results of a USDA-approved (Agricultural Research Service and Human Nutrition Information Service) nationwide testing program indicate that the cholesterol level in a large egg is approximately 210 milligrams. However, final results of these tests may not be significant enough to change consumers' perceptions about increasing egg consumption.

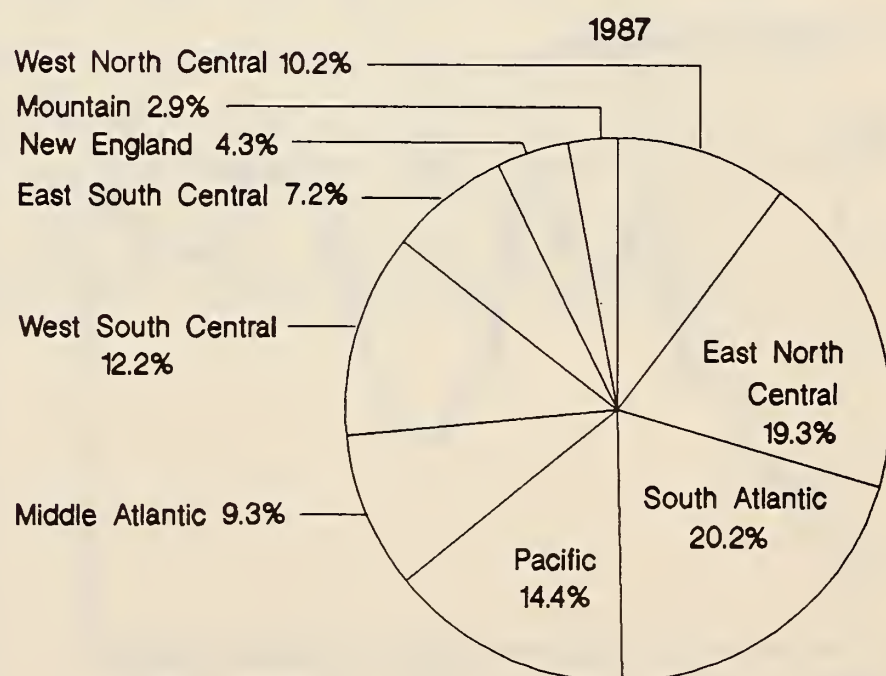
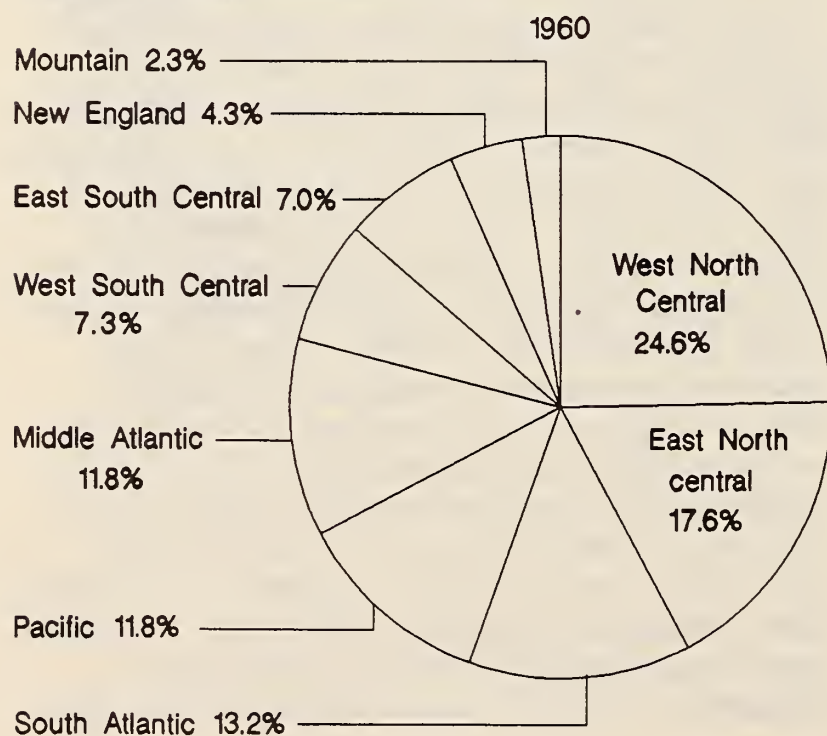
Changes in the Egg Industry

Egg production in the United States traditionally came from a large number of relatively small flocks scattered throughout the country. Today's egg industry bears little resemblance to its past. Production has become more concentrated over time, is comprised of larger firms, and has undergone a realignment in the geographical location of major producing areas. According to the egg industry magazine, about 48 percent of all layers were in flocks totaling one million birds or more in 1987 (see Table 1).

During 1987, the five largest egg producing firms accounted for about 14 percent (38 million hens) of the commercial laying flock, while the top 10 companies controlled nearly 21 percent (or 58 million hens). The Nation's largest producer controlled about 12 million hens. While the industry was becoming more concentrated, very significant changes were also occurring in the relative share of production located in various regions.

The regional location of total egg production has changed dramatically over the past three decades. In 1960, production was most heavily concentrated in the North Central region, which accounted for about 42 percent of the Nation's

Regional Egg Production



Percent of total production.

production that year. The North Central region has declined in relative importance, although it remains a major producer. The most interesting aspect of the change over the past three decades is the movement of production facilities out of Iowa, South Dakota, Nebraska, Kansas, and Minnesota into Indiana and Ohio.

North Central Region

The North Central region includes two producing areas, the East and West North Central Regions. These two regions had markedly different production patterns over the past three decades.

The *East North Central region* is comprised of Wisconsin, Michigan, Illinois, Indiana, and Ohio. In 1975, this region's output was 8,588 million dozen (the lowest since 1960), representing 13.3 percent of total U.S. production. In 1987, this region accounted for a record 13,343 million dozen, 19.2 percent of the national production. East North Central production has increased in each of the past 10 years. In 1960, this region was ranked second behind the West North Central region, and produced 10,798 million dozen eggs. In 1987, the region was second behind the South Atlantic region. Indiana and Ohio produce 76 percent of the region's total. Indiana's output has more than doubled since 1975, and reached 8.3 percent of total U.S. production in 1987. Indiana is the second largest egg producing State in the nation, behind California. Ohio accounted for 6.3 percent of total U.S. output in 1987 and was the fifth largest producer.

The dynamics of the industry suggest that some of the forces which tended to move egg production out of the East North Central region may have been reversed. Cost advantages associated with proximity to grain and oilseed production have again asserted themselves. The adoption of large in-line production techniques, particularly in Indiana and Ohio, have exploited the feed cost advantages. With these new plants, it is possible to have eggs graded, packaged, and shipped within 2 hours. This has contributed greatly to the midwest's expanding share of eggs sold in the high-priced California market, as well as in the large metropolitan markets in the East.

The *West North Central region* is made up of Iowa, Missouri, South Dakota, North Dakota, Nebraska, Kansas, and Minnesota. This region has undergone a very dramatic decline in egg production since 1960. In 1960, it was the largest egg producing region in the country, with 24.5 percent of the U.S. total. In 1987, the region accounted for 10.2 percent of U.S. output, a decline of 53 percent from 1960. Most of the decline occurred in the late-1960's as production facilities moved out of nearly every State in the region.

The shift out of the West North Central region was prompted by more profitable alternative uses for the agricultural resources, less efficient feed mills than elsewhere, and smaller, less efficient production facilities. Furthermore, the marketing channels in the North Central region tended to be longer and more complex, resulting in higher marketing costs.

South Atlantic Region

The South Atlantic region, Georgia, North Carolina, South Carolina, Florida, Delaware, Maryland, Virginia, and West Virginia, produces the most eggs. In 1987, it accounted for more than one of every five eggs produced in the United States. Regional production actually peaked in 1979 at 15,577 million. In 1987, output was 14,015 million eggs, a modest .5 percent increase over a year earlier.

South Central Region

The *West South Central region* of Arkansas, Louisiana, Oklahoma, and Texas increased output 88 percent between 1960 and 1987, and raised its share of total U.S. output from 7.3 to 12.1 percent. Regional output rose fairly steadily through its peak year 1980, and then declined. A modest rebound occurred in 1986, and continued in 1987. Hatching egg production has been a major contributor to the region's overall growth. Arkansas and Texas are the key producing States in this region. Following explosive growth in the 1960's, production in Arkansas has been stagnant. Texas, on the other hand, experienced steady, albeit modest, growth during the entire 1960-1987 period.

The *East South Central region* (Alabama, Kentucky, Mississippi, and Tennessee) accounted for about 7.2 percent of total U.S. egg production in 1987. However, output declined steadily after its peak in 1968. During 1987, the region produced 5,000 million eggs, 28 percent less than its record output of 1968. Alabama is the largest producer, accounting for over 52 percent of the area's total.

Middle Atlantic Region

The Middle Atlantic region of Pennsylvania, New Jersey, and New York accounted for 9.3 percent of the national egg production in 1987. Regional production declined from the period-high 7,248 million eggs in 1960 to a low of 5,152 million in 1976. Between 1977 and 1980, production increased to the 6,300-million egg area. Output has ranged from 6,226 million in 1984 to 6,958 million in 1985.

Pennsylvania, the Nation's third largest producing State, is by far number one in the region, accounting for over 75 percent of the regional total. Production fluctuated between 2,700 and 3,450 million eggs during the 1960-78 period. Output increased somewhat erratically to a record 4,853 million eggs in 1987.

Production in New Jersey fell sharply over the 1960-87 period. Despite a modest recovery since 1984, 1987 output was 76 percent below that of 1960.

New York's production has declined since a peak in 1968. The rate of decline accelerated in both 1986 and 1987 with production last year nearly 40 percent lower than in 1960.

New England Region

The New England region (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) produced about 4.3 percent of the U.S. total in 1987. Regional production increased a modest 34 percent between 1960 and 1979, and has since declined 16 percent. Maine and Connecticut produce the bulk of the region's eggs, with 71 percent of the total. Maine is the region's top producer, with Connecticut close behind.

Mountain Region

The Mountain region, Arizona, New Mexico, Colorado, Utah, Nevada, Idaho, Montana, and Wyoming, accounted for only about 2 to 3 percent of the annual national production from 1960 to 1987. The past 2 years have found modest gains in production.

Pacific Region

Egg production in the Pacific Region (California, Oregon, and Washington) was 14.3 percent of the Nation's total in 1987. California, the Nation's number one egg producer, accounted for 81 percent of the region's output in 1987, and

11.5 percent of the Nation's total. Production in California increased more than 61 percent between 1960 and 1971 to a record 9,012 million eggs. However, following an outbreak of Newcastle disease in late-1971, production dropped significantly over each of the two subsequent years. Production in 1974 bounced back somewhat to 8,485 million eggs. Between 1975 and 1987, output fluctuated between 8,800 and 7,850 million eggs. With the exception of the disease ravaged 1973, production was lower in 1986 and 1987 than any year since the mid-1960's.

Production in Washington has been relatively stagnant during the 1980's, but at a level 25 to 30 percent above that of the early-1960's. Washington accounts for about 13 percent of the regional total, while Oregon produces about half as much.

High prices in California have attracted eggs produced outside the Pacific Region. In 1985, eggs moving into California from other states were the equivalent of about 2.5 percent of the State's production. Imports during 1986 and 1987 were 2.0 and 3.1 percent, respectively. Key States exporting to California include Indiana and Texas.

References

U.S.D.A., National Agricultural Statistics Service, Poultry Production and Value, Annual Summary, various issues, 1960-87.

U.S.D.A., National Agricultural Statistics Service, Layers & Egg Production, Annual Summary, various issues, 1960-87.

Table 1. Firms owning at least one million Hens 1/

Year	Number of Firms	Million Firm Layer Totals	Number Table-Type Layers in U.S.	Percent of Total
--- millions of hens ---				
1980	45	92.7	256.6	36.1
1981	47	96.4	255.3	37.8
1982	58	111.4	249.6 2/	43.3
1983	56	109.7	244.6	44.8
1984	63	131.0	247.3	53.0
1985	61	139.5	243.4	57.3
1986	53	129.8	242.3	53.6
1987	52	136.0	244.6	55.6

1/ Source: egg industry, Poultry Tribune, and USDA.
2/ Estimated using existing data and historical trends.

Table 2-- Regional egg production as a percent of total U.S.: Selected years

Region	1960	1970	1980	1985	1987
- - - - -Percent- - - - -					
West North Central	24.5	12.9	10.5	10.3	10.2
East North Central	17.5	13.6	13.9	18.1	19.2
South Atlantic	13.1	20.9	21.7	20.1	20.2
Middle Atlantic	11.8	9.3	9.0	10.2	9.3
Pacific	11.7	15.0	15.4	14.7	14.3
West South Central	7.3	11.1	12.4	11.7	12.1
East South Central	7.0	10.2	9.2	7.6	7.2
New England	4.3	4.5	5.0	4.3	4.3
Mountain	2.3	2.1	2.5	2.6	2.9

Table 3-- Regional egg production 1/

Year	East North Central	West North Central	South Atlantic	Pacific	Mountain	East South Central	West South Central	Middle Atlantic	New England	Alaska/Hawaii	United States
- - - - -Millions of Eggs - - - - -											
1960	10,798	15,113	8,084	7,210	1,428	4,315	4,474	7,248	2,655	146	61,602
1961	10,369	14,806	8,610	7,731	1,385	4,509	5,013	7,107	2,735	158	62,423
1962	10,442	14,177	9,236	8,177	1,401	4,987	5,251	6,980	2,753	165	63,569
1963	9,980	12,719	10,201	8,336	1,396	5,427	5,440	6,933	2,892	176	63,500
1964	9,738	12,413	10,902	8,814	1,339	5,842	6,024	6,922	3,028	193	65,215
1965	9,673	11,783	11,313	8,966	1,293	6,134	6,222	7,027	2,950	199	65,560
1966	9,487	11,013	12,135	9,179	1,339	6,339	6,809	6,698	3,008	198	66,205
1967	9,832	10,845	13,189	9,685	1,408	6,893	7,545	6,715	3,010	205	69,327
1968	9,726	9,435	13,358	9,933	1,402	6,972	7,651	6,528	2,939	212	68,156
1969	9,166	8,635	14,188	10,062	1,414	6,816	7,567	6,457	3,035	206	67,546
1970	9,304	8,807	14,253	10,234	1,440	6,954	7,594	6,347	3,077	202	68,212
1971	9,986	9,041	14,708	10,547	1,448	6,754	7,533	6,282	3,135	217	69,649
1972	10,147	8,851	14,665	10,239	1,411	6,783	7,726	5,935	3,251	211	69,219
1973	9,722	8,374	14,356	9,273	1,429	6,439	7,302	5,659	3,270	215	66,039
1974	9,321	7,866	14,493	10,113	1,469	6,408	6,985	5,525	3,226	213	65,620
1975	8,588	7,670	13,716	10,070	1,601	6,125	7,042	5,903	3,462	214	64,391
1976	9,097	7,512	13,961	10,225	1,610	6,153	7,238	5,152	3,340	224	64,511
1977	8,969	7,288	14,007	9,933	1,669	6,517	7,333	5,211	3,449	224	64,600
1978	9,437	7,374	14,587	10,088	1,830	6,552	7,847	5,656	3,547	223	67,140
1979	9,538	7,280	15,577	10,501	1,759	6,535	8,273	5,945	3,566	236	69,209
1980	9,702	7,295	15,108	10,729	1,758	6,436	8,637	6,306	3,489	225	69,686
1981	10,282	7,491	15,086	10,397	1,868	6,243	8,569	6,417	3,244	228	69,825
1982	10,893	7,674	14,989	10,242	1,918	5,771	8,449	6,459	3,101	211	69,706
1983	10,998	7,453	14,335	10,035	1,908	5,377	8,133	6,703	3,013	213	68,169
1984	11,721	7,306	14,204	10,309	1,926	5,214	8,015	6,226	3,086	223	68,230
1985	12,391	7,043	13,751	10,056	1,808	5,232	8,002	6,958	2,935	232	68,407
1986	12,571	6,898	13,943	9,804	1,871	5,080	8,231	6,716	3,045	240	68,398
1987	13,343	7,093	14,015	9,964	1,987	5,000	8,426	6,443	2,992	230	69,492

1/ U.S.D.A. National Agricultural Statistics Service, various publications, various issues.

THE JAPANESE BROILER INDUSTRY AND THE ROLE OF U.S. EXPORTS

Lee A. Christensen and Lawrence Witucki

Since 1980, the United States has exported between 3 and 6 percent of its annual broiler production, with Japan consistently the biggest customer, taking between 16 and 35 percent (Table 1). Factors behind the strong Japanese demand for U.S. broilers include the relatively inexpensive U.S. prices, aided since 1986 by the weakness of the dollar relative to the Japanese yen, and aggressive marketing by the U.S. poultry industry. Contributing to an expected further expansion in exports is a growing demand for chicken within Japan and constraints to rapid growth of the Japanese poultry industry.

The potential for U.S. exports to Japan will be influenced by the growth in Japanese demand for broilers; whether this demand will be met internally or from imports; and the competitiveness of U.S. broiler exports relative to other exporting countries.

Characteristics of the Japanese Broiler Industry

Japanese broiler production has expanded dramatically since its start in 1958. Between 1963 and 1988, production increased sharply from 45,000 to 1,480,000 metric tons. Japan is the fifth largest broiler producer in the world, almost exclusively for domestic consumption. It is the largest importer of broiler meat in the world. Production in 1987 was 1.861 million tons (liveweight), with the average bird size of 5.45 pounds. Historically, the poultry industry was located in the Tokai region of central Japan, around the city of

Nagoya. Broiler production has been shifting from the heavily populated areas to the southwestern island of Kyushu, which produced 45 percent of the total in 1987 and to the northern region of Tohoku, with 20 percent, because of lower land and labor costs and fewer pollution problems.

The broiler industry is becoming more and more concentrated in the hands of fewer and larger producers and processors. In 1987, there were approximately 6,300 producers with average annual shipments of around 119,000 birds per farm. The number of producers is down sharply from 19,000 in 1966. About 750 million broilers were produced in 1987. Almost 28 percent came from 307 farms raising more than 300,000 birds per year, while 47 percent were produced by 2,160 farms with between 100,000 and 300,000 birds annually.

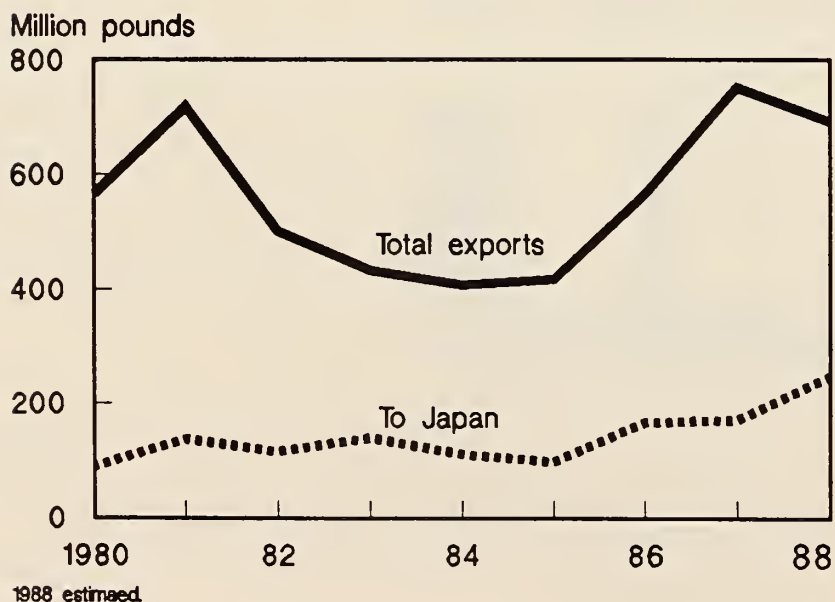
Japanese broiler production is concentrated in integrated operations. The 10 largest companies and co-ops produced 40 percent of all broilers and the largest 25 produced 60 percent of the 1987 total. Zen-Noh, the national agricultural cooperative accounted for 20 percent of 1987 production. There are approximately 100 broiler companies and cooperatives. Nearly 170 processing plants, each slaughtering one million or more broilers annually, account for 90 percent of Japanese output.

The Japanese define an "integrated" poultry company differently than in the United States. Typically a Japanese company does not own the chickens through the entire production process from hatching to slaughter. Japanese broiler farmers buy their chicks and feed from integrators, raise the broilers, and in turn sell the chickens back to the processors at an agreed upon price. Most Japanese integrators buy their rations from feed companies and their chicks from independent hatcheries. Grain importation is generally done by large trading and feed companies. In 1987, Japan imported 22 million tons or around 90 percent of ingredients to manufacture 25 million tons of feed. Most of the ingredients are imported from the U.S. and mixed at or near Japan's Pacific ports.

Japanese Demand for Broilers

Fish is the dominant meat consumed in Japan, but consumption has been at a relatively constant level since 1974, when annual per capita consumption was around 77 pounds. Total red meat and poultry consumption in 1974 was 30.8 pounds per capita. Fish consumption in 1987 was 79.2

U.S. Broiler Exports



pounds per capita compared to 83.5 pounds for total red meat and poultry. Pork consumption was 34.6 pounds, followed by poultry with 30.2 pounds and 15.9 pounds for beef. Chicken consumption has been aided by its relatively low price. In the past 20 years the retail price of beef has risen 4 times, pork two times, but chicken only 1.5 times. Total meat consumption in 1987 was 4.7 million tons of which 1.13 million were imported.

The Japanese consume about 53 percent of domestic chicken production away from home and only 40 percent in fresh use at home. Seven percent is used in processed foods. Yakitori, bite-sized marinated chicken pieces grilled on bamboo skewers, is very popular, and accounts for about 10 percent of total use. Broiler use in fast food chains contributes greatly to consumption. Kentucky Fried Chicken, in Japan since 1970 and currently operating around 800 franchises, uses about 7 percent of all broilers produced in Japan. McDonald's has about 500 franchises promoting chicken nuggets. Imported broiler meat is used primarily in supermarket chains or in the foodservice industry. Imports from the U.S. have been primarily bone-in legs, which are sold at a price considerably below the domestic product. Thailand has been supplying primarily boneless meat, but it is moving into the area of value-added products, such as yakitori and boneless, skinless breast meat.

Most Japanese broilers are distributed as fresh, deboned, further processed products, and only 20 percent in the fresh, whole carcass form. These whole carcasses are distributed mainly to traditional chicken meat shops where they are deboned and sold as fresh sliced meat.

One factor behind larger 1988 imports is slower growth in Japanese production. In 1987, production was up about 3 percent and will likely increase about 1 percent in 1988, in spite of lower feed prices early in the year. Per capita consumption has increased each year except 1981, when production dropped slightly. In 1986, production increased only 1.2 percent and imports jumped over 70 percent. Total Japanese imports from all countries could increase about 17 percent this year, and U.S. exports to Japan are expected to increase about 40 percent. When Japanese production dropped in 1981, imports increased 36 percent. In 1982 production rose sharply, and U.S. exports to Japan dropped. Japanese imports from the U.S. increased in 1983 as supplies from Thailand were reduced. In 1984 and 1985, the strong dollar relative to the yen reduced Japanese imports of U.S. broilers.

Competition for the Japanese Market

The increasing Japanese demand for broiler meat has attracted imports from other countries. While the U.S. has proven to be a consistent and reliable supplier, Thailand and Brazil are also increasing shipments.

Thailand started exporting broiler meat to Japan in the late 1970's, and passed the U.S. in 1987 as the leading source. Thailand has been increasing production very rapidly but its exports are constrained in some years. In 1988, high feed costs have slowed production, and some of its exports to Japan have been rejected due to pesticide residues. As a result, Thailand's exports are expected to stagnate or drop this year.

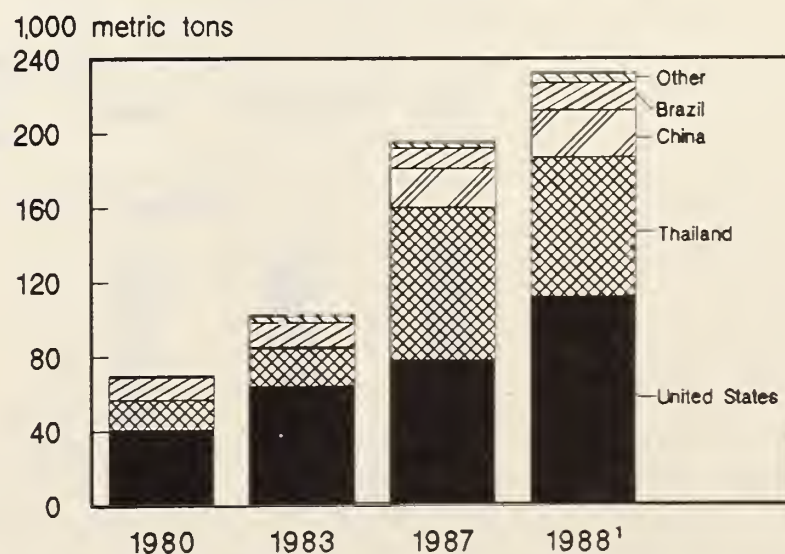
Most Thai exports to Japan are labor intensive deboned meats and speciality cuts, which capitalize on their lower labor costs. Higher value exports to Japan include such products as yakitori, wingsticks, and boneless leg steak. Bone-in parts are also exported. All are prepared as high-value items. Japan is taking about 90 percent of Thailand's exports. If Japan continues to prefer the highly processed, labor intensive, type of poultry meat, Thailand will remain a major competitor to the U.S. Nine major exporters in Thailand may be joined by a large Thai-Japanese firm that could add 20 percent to Thailand's exports over the next several years.

Brazil began exporting to Japan in 1983 when Thailand's supplies declined. The Brazilians have apparently tailored their exports to the Japanese market, bone-in and boneless, and mostly parts. During the first half of 1988, Brazil's exports of parts rose 10,000 metric tons or nearly 40 percent over 1987, while exports of whole birds declined. Most of the increase went to Japan. The average export price of Brazilian broiler parts was two-thirds above whole bird prices. Brazil's export prices during 1988 were lower than 1987, because of sharp devaluations of its currency.

Looking Ahead

Continued growth in the Japanese demand for broilers is expected. While domestic production can expand some, it

Major Suppliers of Broilers to Japan



1/ 1988 estimated.

probably won't keep pace with demand due to environmental concerns, and relatively high production costs. Thus imports are expected to contribute an increasing share to total broiler meat consumed in Japan. The U.S. has the most experience in marketing broilers to Japan, but Brazil and Thailand have become important players in the market.

Unlike beef, Japan applies no import quotas to poultry meat. However, tariffs are applied to poultry meat imports. The level of these tariffs in 1980 was 20 percent on chicken meat other than frozen bone-in chicken and 13.5 percent on bone-in chicken legs. These tariffs have been reduced to a current level of 14 percent and 10 percent respectively, agreed to at the Tokyo round of the Multilateral Trade Negotiations. No further reductions are planned.

A factor which will have a significant impact on broiler demand in Japan is the phased lifting of trade barriers against beef. Increased beef imports from the U.S. and Australia may depress broiler prices, especially for locally produced fresh chicken meat which represents 40 percent of the market. Growth can still occur in the markets for prepared foods, restaurants, and fast food outlets. Furthermore, there is considerable potential for increases in per capita poultry consumption in Japan, given the increasing

consumer income and the perception of the Japanese consumer that poultry is a very healthy meat.

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Table 1--U.S. broiler production, exports, and exports to Japan, 1980-1988

Year	Total Production	Total Exports		Exports to Japan	
	Million pounds	Million pounds	Percent of Production	Million pounds	Percent of Total Exports
1980	11353	567	5.0	90	15.9
1981	11985	719	6.0	138	19.2
1982	12167	501	4.1	116	23.2
1983	12400	432	3.5	140	32.4
1984	13017	407	3.1	111	27.3
1985	13762	417	3.0	98	23.5
1986	14316	566	4.0	167	29.5
1987	15594	752	4.8	171	22.7
1988 1/	16279	693	4.3	240	34.6

1/ Estimated

Table 2--The Japanese poultry market since 1980

Year	Production	Imports	Total Consumption	Per capita Consumption	Production as share of consumption
	1000 metric tons			lbs	Percent
1980	1154	72	1224	23.1	94.3
1981	1134	98	1235	23.1	91.8
1982	1209	106	1312	24.4	92.1
1983	1257	105	1354	25.1	92.8
1984	1309	107	1414	26.0	92.6
1985	1395	104	1474	26.8	94.6
1986	1421	180	1563	28.4	90.9
1987	1465	202	1667	30.1	87.9
1988 1/	1480	237	1740	31.3	85.1

1/ Estimated

Table 3--Major suppliers of broilers to Japan

	1980	1987	1988 1/
1,000 Metric tons			
U.S.	41	78	109
Thailand	16	82	75
Brazil	0	21	25
China	12	11	15
Others	1	3	6
Total	70	195	230

1/Estimated

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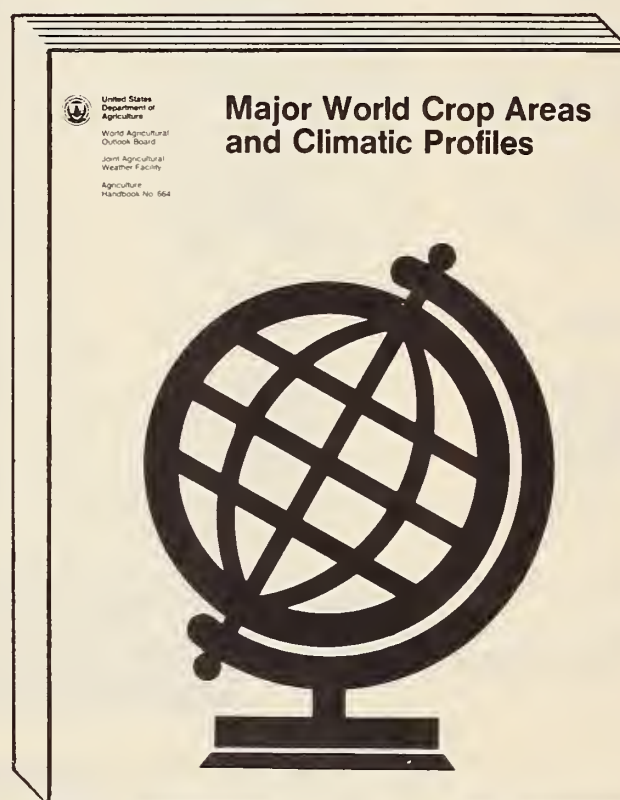
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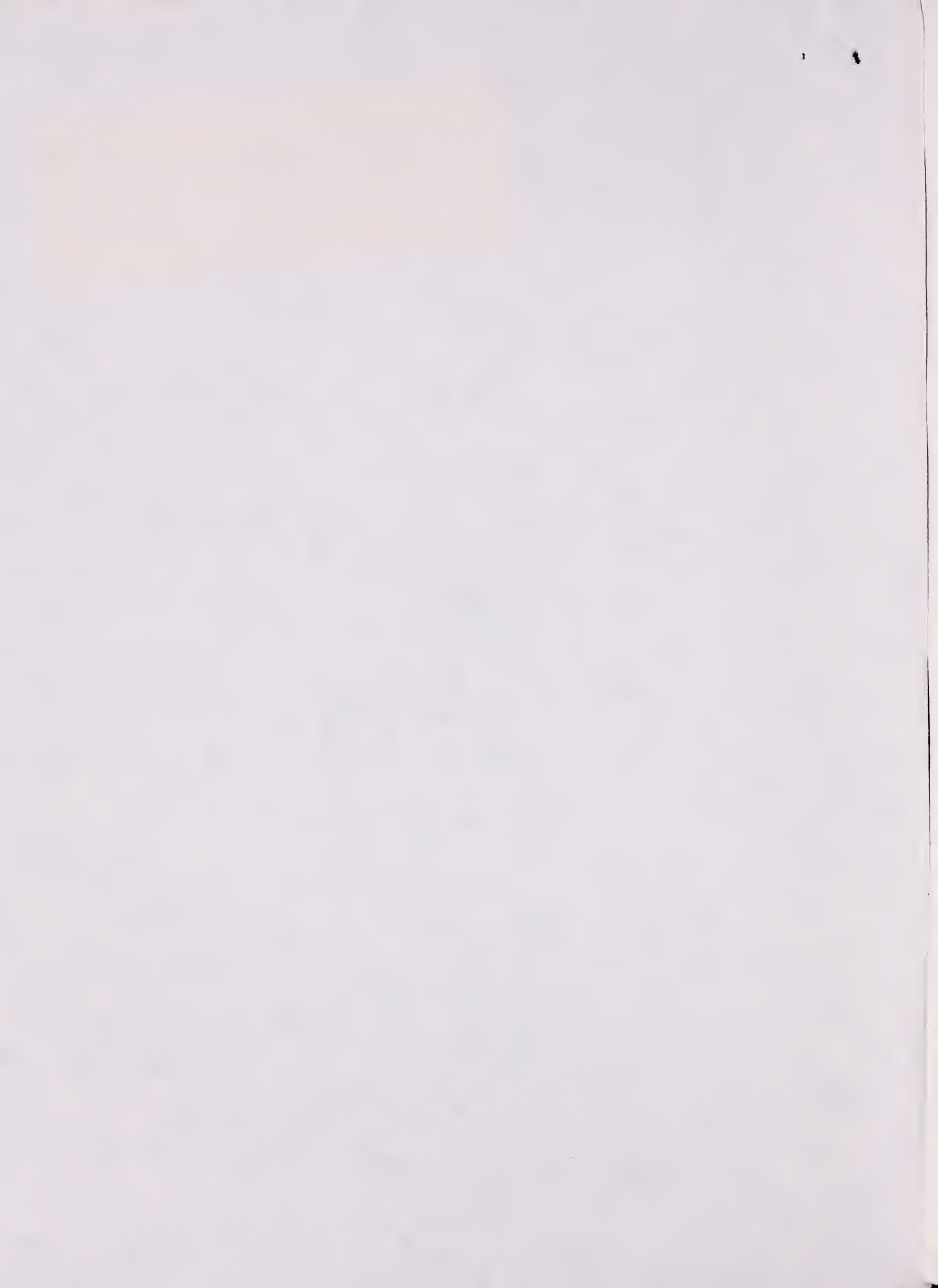
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SUMMARY

Total red meat and poultry production is expected to set another record in 1988, reflecting the strongest increases in pork in several years, and moderate growth in broilers and turkeys. Beef production will decline slightly as sharply reduced nonfed slaughter offsets record fed beef supplies. Production costs in all sectors have risen, reflecting the higher feed prices associated with the summer drought. Returns in the various sectors are mixed. Strong demand has strengthened prices, particularly for turkeys and broilers, but there will be pressure on returns in 1989. Although estimates for 1989 are for a 1-percent decline in total red meat and poultry, production will be the second largest in history.

Shoppers will find adequate supplies of turkey and plentiful supplies of ham for the holiday season. Prices will likely be higher for turkey and lower for ham than last year. While supplies of both are above a year ago, smaller increases of each, coupled with less beef are strengthening prices. Turkey production in 1988 is expected to rise 5 percent compared with 17 percent in 1987. Cold storage stocks of turkeys at the beginning of the fourth quarter were 11 percent below the record level of 1987, and will be drawn down further to supply holiday demands as fourth quarter production is expected to be down from last year. Ham stocks at the beginning of the fourth quarter were more than double the year-ago level and hog slaughter is expected to increase this fall.

Turkey production for all of 1988 is expected to rise 5 percent from a year earlier and a 3-percent increase is forecast for 1989. The 1988 increase is based upon 2 percent more turkeys and a 3-percent increase in average

slaughter weights. Wholesale turkey/hen prices are expected to average 62-64 cents per pound in 1988, and 65-71 cents per pound in 1989.

Broiler production during 1988 is projected to increase 4 percent from 1987 and may rise the same in 1989. Broiler prices have shown remarkable strength in 1988, particularly due to new product introduction by fast food chains. Prices are expected to decline slightly in 1989 as production increases continue.

The strong 1988 increase of around 9 percent in pork production is expected to moderate in 1989 to only 1 percent. As of September 1, there were 5 percent more market hogs estimated in the 10 States reporting quarterly than a year ago. Farrowing intentions for September-November and December-February indicate moderate production in 1989. Hog prices are currently under pressure because of increased marketings and are expected to average about \$44 per cwt in 1988 and slightly higher in 1989.

Beef production during the fourth quarter of 1988 may decline 4 percent from last year. The number of cattle on feed October 1 was 5 percent below a year ago as fed cattle marketings exceeded net placements during the third quarter. Marketing intentions for the fourth quarter are unchanged from last year. Farmers and ranchers are expected to withhold breeding stocks from slaughter and reduced feeder cattle inventories will tighten potential fed slaughter supplies. A 7 percent drop in beef production is expected in 1989. Choice steer prices during 1989 are expected to average \$71-\$77 per cwt, above the \$69-\$70 range estimated for 1988.

Total egg production in 1988 is expected to decline about 1 percent.

Producers began downsizing the laying flock early in 1988 after experiencing heavy financial losses. Poor profit expectations for table eggs will likely bring a decline in production of about 1 percent in 1989.

Table 1--Livestock, poultry, and egg production and prices
(All percent changes shown are from a year earlier.)

Item	1986	1987			1988					1989 1/	
	Annual	III	IV	Annual	I	II	III	IV 1/	Annual 1/	I	Annual
Million pounds											
PRODUCTION											
Beef	24,213	6,064	5,850	23,405	5,696	5,784	6,186	5,625	23,291	5,550	21,700
% change	+3	-3	-1	-3	-1	+1	+2	-4	0	-3	-7
Pork	13,998	3,384	4,061	14,312	3,787	3,726	3,773	4,325	15,611	3,900	15,700
% change	-5	+5	+12	+2	+7	+12	+11	+7	+9	+3	+1
Lamb & mutton	331	77	81	309	85	80	80	83	328	88	335
% change	-6	-5	-1	-7	+12	+7	+4	+2	+6	+4	+2
Veal	509	99	104	416	97	92	99	110	398	100	400
% change	+2	-23	-15	-18	-13	-9	0	+6	-4	+3	+1
Total red meat	39,051	9,624	10,096	38,442	9,665	9,682	10,138	10,143	39,628	9,638	37,135
% change	0	-1	+4	-2	+2	+5	+5	+1	+3	0	-4
Broilers 2/	14,266	3,966	3,895	15,502	3,996	4,079	4,065	4,040	16,180	4,100	16,850
% change	+5	+10	+9	+9	+7	+4	+3	+4	+4	+3	+4
Turkeys 2/	3,133	1,100	1,082	3,717	837	980	1,080	1,050	3,947	850	4,050
% change	+12	+17	+17	+19	+25	+13	-2	-3	+6	+2	+3
Total poultry 3/	17,929	5,195	5,112	19,772	4,986	5,209	5,260	5,215	20,670	5,090	21,450
% change	+6	+11	+11	+10	+10	+6	+1	+2	+5	+2	+4
Total red meat & poultry	56,980	14,819	15,208	58,214	14,651	14,891	15,398	15,358	60,298	14,728	59,585
% change	+2	+3	+6	+2	+5	+5	+4	+1	+4	1	-1
Million dozen											
Eggs	5,705	1,439	1,479	5,797	1,464	1,415	1,410	1,435	5,724	1,420	5,625
% change	0	+2	+2	+2	+2	-2	-2	-3	-1	-3	-2
PRICES											
Dollars per cwt											
Choice steers, Omaha, 900- 1100 lb	57.75	65.04	64.31	64.60	68.28	72.81	69.92	68-70	68-70	67-73	71-77
Barrows & gilts, 7 mkts	51.19	58.97	43.51	51.69	44.74	45.90	44.24	38-40	42-44	41-47	42-48
Slaugh. lambs, Ch., San Ang.	69.46	72.90	68.36	78.08	81.51	69.52	59.02	59-61	66-68	74-80	63-69
Cents per pound											
Broilers, 12-city avg. 4/	56.9	48.7	42.5	47.4	45.4	55.6	66.1	54-56	55-57	50-56	51-57
Turkeys, NY 5/	72.2	56.2	60.6	57.8	48.9	51.4	72.6	79-80	62-64	62-68	65-71
Cents per dozen											
Eggs New York 6/	71.1	63.5	59.2	61.6	55.0	53.3	72.9	70-72	62-64	68-74	69-75

1/ Forecast. 2/ Federally inspected. 3/ Includes broilers, turkeys, and mature chickens. 4/ Wholesale weighted average. 5/ Wholesale, 8- to 16-pound young hens. 6/ Cartoned, consumer Grade A large, sales to volume buyers.

FACTORS AFFECTING LIVESTOCK AND POULTRY

Record amounts of red meat and poultry continue to be produced, even though the drought of 1988 raised grain prices and created uncertainties for 1989. The recent trend continues of poultry and pork increases offsetting beef declines as cattle inventories begin to stabilize. Production growth for 1988 is being led by an anticipated 9-percent increase in pork. Turkey and broiler production are expected to be up 5 and 4 percent over 1987.

The 37-percent decrease in production of feed grains and 19 percent for oilseed crops due to the drought reduced supply of these livestock feed ingredients and raised prices. Price estimates for 1988/89 corn and soybean meal are \$2.40-2.80 per bushel and \$225-275 per ton, respectively. These compare with \$1.94 per bushel for corn and \$222 per ton for soybean meal in 1987/88. Higher feed prices are causing livestock and poultry producers to reevaluate their plans for 1989. Total red meat and poultry production is expected to decrease around 1 percent in 1989, reflecting higher production costs and downward pressure on returns. Red meat production is expected to decline 4 percent while poultry production is projected to increase by 4 percent.

Strong Economic Growth, but Moderation Likely

Growth in the overall U.S. economy is providing continued demand support for the livestock and poultry sectors. While last October's stock market decline prompted many analysts to predict a recession beginning in 1988, growth in real Gross National Product will likely exceed 3.5 percent. Real disposable

income is likely to grow about 3 percent for the year, paced by gains in wages and salaries. Increases in manufacturing employment have speeded income growth. For 1989, real GNP is likely to grow between 2.5-3.5 percent, with disposable income growing about 2-3 percent. The prime interest rate will be 10-10.5 percent up slightly from 10 percent in 1988. Inflation in consumer prices, currently running between 4 and 4.5 percent, should continue in that range for 1989.

Turkeys

Turkey prices higher

Higher retail turkey prices will probably prevail this holiday season even though per capita fourth-quarter disappearance is expected to remain even with last year. Wholesale turkey prices have been rising since May, increasing the likelihood of higher prices for Thanksgiving specials. The higher prices may have resulted from retailer expectations of tighter holiday supplies because producers placed less poultts for third- and fourth-quarter slaughter.

Cold storage stocks to be drawn down

A substantial drawdown of turkey cold storage stocks must occur for per capita fourth-quarter disappearance to remain even with last year if fourth-quarter production is near expected levels. Stocks for the beginning of the fourth-quarter were 571 million pounds, 11 percent below the 1987 record. Carryout stocks are expected to be 150 million pounds, similar to 1985, but 53 percent below the 1987 ending stock.

Per capita consumption becoming more evenly distributed

Annual turkey per capita disappearance in 1988 continues its long-term trend towards more even distribution of consumption throughout the year. Although expected fourth-quarter disappearance, at 6 pounds, still accounts for nearly 36 percent of the annual total, the proportion has been decreasing. For example, fourth-quarter disappearance in 1978 accounted for 44 percent of the

total. The first 3 quarters comprised 19, 22, and 23 percent of the total disappearance in 1988 compared with the 10 year earlier distribution of 14, 19, and 24 percent in each quarter, respectively. Total per capita disappearance this year will likely be 16.7 pounds, up nearly 11 percent from 1987.

Production to increase 6 percent in 1988

Even though per capita turkey supplies will likely remain the same in fourth-quarter 1988 as in 1987, annual production is estimated to rise 6 percent. Federally inspected production during the first 3 quarters, at _____ million pounds, was _____ percent higher, but increases leveled out and then decreased during the third quarter with _____ percent less turkey being produced.

Liveweights increased in 1988

Although only 2 percent more poults were placed for 1988 slaughter, average liveweights rose _____ percent during the first 3 quarters. Average liveweights have increased at an annual rate of 1 percent per year since 1960 although they have been levelling off since 1985. Fourth-quarter production is expected to decrease 3 percent while poults placed for slaughter during that period decreased 5 percent.

Net returns positive during third quarter

Third-quarter net returns for whole turkeys, as calculated by the Economic Research Service (ERS), were 6 cents per pound after a year of being

negative. Net returns are expected to continue positive during the fourth quarter, although higher feed prices may squeeze them. Anticipated higher feed costs and seasonally lower turkey prices during first-half 1989 will cause negative net returns, but rising second-half prices and lower expected feed costs could see higher net returns during the third and fourth quarters.

Production to rise in 1989

Turkey production in 1989 will likely increase 4 percent, nearly the same rate as in 1988, but the slaughter decreases during second-half 1988 will likely become increases early in 1989. September poult placements for early 1989 slaughter were up 7 percent. Egg sets increased 3 percent on October 1.

Turkey prices rise

The wholesale hen turkey price in the East averaged 73 cents per pound during the third quarter compared with 56 cents last year. The October price of 79.5 cents is up slightly from September's. Prices are not expected to rise considerably during the remainder of the fourth quarter, perhaps an indication that retailers entered the market early, expecting tighter supplies during the fourth quarter. The fourth-quarter wholesale price is expected to average 78-82 cents, up from 61 cents last year. A lower stock-to-usage ratio, .39 versus .44 for the fourth quarter last year, might explain a portion of the expected upward price movement during the fourth quarter from a year earlier. (See figure.) The 1988 annual price will likely be 62-64 cents.

Turkey prices are expected to fall seasonally in first-quarter 1989 to 62-68 cents, but remain substantially above the 49 cents in 1988. The second-quarter 1989 price, 60-66 cents, will likely be above the 51 cents in 1988. The annual price in 1989 might average 68-74 cents per pound.

Broilers

Broiler production up

The broiler industry continues to give mixed signals on production plans for 1989 after this summer's net returns moved up substantially from 1987. However, the period of higher net returns were overshadowed by sharply higher feed prices which clouded expectations of future profitability. With the completion of the 1988 grain harvest, industry plans will become clearer. Examples of uncertainty are reflected in changes in the broiler egg sets and chick placements, hatching egg flock, and pullet placements to the broiler hatchery supply flock during the last few months. All three indicators have shown erratic month-to-month changes in recent months.

Production increases slowed in 1988

Following a period of unsatisfactory net returns in late 1987 and early 1988, the industry began to slow production increases. After first-quarter production increased 7 percent from a year earlier, output grew only 3 percent during the third quarter. Federally inspected production during January-September, at ____ pounds, increased ____ percent.

Fourth-quarter production likely to increase

Fourth-quarter production will likely increase around 4 percent as indicated by the August and September broiler chick hatch and 15-State weekly chick placements during October. Average broiler liveweights at slaughter have been only marginally above last year. Production in 1988 is expected to increase 4 percent to 16.3 billion pounds.

Two aberrations in short-run broiler production indicators should be noted. Increases in weekly chick placements have been running 1-2 percent higher than corresponding egg sets, even though broiler egg hatchability has not changed greatly from last year. Higher domestic use of chicks hatched is thought to be the main factor. Secondly, weekly slaughter estimates during October have only risen 2 percent from year-earlier figures although the August chick hatch was 5 percent above. Shorter growout periods may make monthly hatch data less compatible with the 2-month lag currently used to predict slaughter.

Broiler returns positive since March

Broiler net returns, as calculated by ERS, became positive in March and were 16 cents per pound during the third quarter. Net returns are expected to narrow substantially as seasonally declining broiler prices and increasing feed costs begin to squeeze profitability during fourth-quarter 1988 and first-quarter 1989. Seasonally rising broiler prices and lower expected grain prices will probably keep net returns positive during the rest of 1989.

Broiler production to rise in 1989

Broiler production in 1989 is projected to rise 4 percent because of higher net returns in the summer of 1988, and expectations of positive net returns during most of 1989. Most of the capacity indicators, however, belie this indicated increase in production. The hatching egg flock, a rough indicator of the quantity of broiler hens available to lay eggs, has fluctuated considerably. On July 1, the flock was up 4 percent, a month later it was up less than 1 percent. On October 1, the hatching egg flock was 1 percent larger, indicating beginning 1989 slaughter may increase similarly.

The broiler hatchery supply flock is a longer-term estimator of future broiler-hen egg-laying capacity. It is comprised of hens 7-14 months of age. Pullets placed in September will enter the flock in April and offspring will be slaughtered approximately 2 1/2 months later. Although this estimator only roughly portrays actual broiler hatching-egg type hen numbers in April, it does indicate direction. The estimated flock in April will decrease only slightly from a year earlier after placements increased 15 percent in September. However, placements to this flock have been inconsistent, decreasing one month and increasing the next since early 1988. These fluctuations continue to emphasize the uncertainty of production increases in 1989.

Broiler prices decrease seasonally

Wholesale broiler prices have been decreasing seasonally after a strong summer. Third-quarter, 12-city composite prices averaged 66 cents per pound compared with 49 cents a year earlier. The wholesale price in October decreased ___ cents to ___ cents from September. The end of: summer vacations, summer barbecuing, and heavy promotions by retailers were the main factors responsible for the price decline. Fourth-quarter prices are expected to average 53-57 cents after the seasonal decline, but be substantially above the 43 cents of last year. The 1988 annual price is expect to be 55-57 cents, up from 47 cents in 1987.

Wholesale broiler prices in 1989 may average 51-57 cents. First-quarter prices are expected to be 50-56 cents, above the 46 cents in 1988. Prices will rise seasonally to 53-59 cents in the second quarter, near the 1988 price.

Eggs

Total Egg Production Expected Down

For 1988, total egg production (table and hatching eggs) is projected to decline by more than 1 percent. First-half 1988 production was very near a year-earlier, but second-half output is forecast at between 2 and 3 percent below second-half 1987. Lower second-half production is expected because the total laying flock projected for that period is significantly smaller. The average table-type flock during September was 3.6 percent below a year

earlier, while the hatching-type flock was 0.5 percent above the previous year's figure. However, since the table-type layers represent more than 85 percent of the total flock, the total laying flock was down 3.1 percent in September.

The 1989 projection calls for a year-on-year decline of nearly 2 percent. This forecast of a continued decline in production is based upon the expectation of a seasonally smaller laying flock through most of that year. The egg price and production cost forecasts for 1989 do not project significant positive net returns until the third quarter of the year. Since 1988 was a difficult year for the industry, the production forecast for 1989 assumes a measured, or moderated, response to higher wholesale prices for eggs. For this reason, the first three quarters of 1989 are projected to show significant year-on-year production declines, while the fourth quarter may equal a year-earlier.

Table Egg Production Lower

During September, the table-egg laying flock was down 3.6 percent from a year earlier, the smallest September flock since data collection began in 1980. On October 1, the flock was 3.4 percent below a year-earlier. The flock is expected to increase in size over the near term, following the usual seasonal pattern of lows in June-July and highs in November-December, although it will remain well below year-earlier levels for the next several quarters. Table laying-type eggs set and chicks placed, key indicators of changes in future flock numbers, have been running well below a year-earlier. Egg-type chicks hatched during August was only 79 percent of year earlier, while the September

figure was 96 percent. The number of eggs in incubators on October 1 was 87 percent of the year earlier figure. Given these factors, seasonal comparisons of the flock will continue to find future months running well below those of last year. Table-egg producers appear to have taken actions to obtain modest short-term production increases, while resisting increases in their longer-term productive capacity. These actions strongly suggest producers had viewed the July-September price strength as temporary.

Higher egg prices during the third quarter led to some producers to adjust accordingly. One reaction was to slow the rate of slaughter of spent hens. Light-type hen slaughter during July and August was down sharply from earlier months of this year, and 25 percent below the same period last year. The proportion of the flock which had completed a molt in September was 22.4 percent compared to last year's 21.3 percent. This, along with the reduced slaughter, suggest that some of the older hens are being retained. Recent egg-type chick hatch and eggs in incubators data demonstrate a reluctance of producers to expand the table-type laying flock. For the January through September 1988 period, egg-type hatch is nearly 16 percent below a year-earlier. Comparing the July through August hatch numbers to a year-earlier finds the current year lagging 26, 21, and 13 percent, respectively. The year-on-year comparisons of egg-type eggs in incubators on the first of the month for July through October were down 23, 24, 10, and 13 percent, respectively. These data, hatch numbers and eggs in incubators, highlight the apparent plans of producers to maintain a smaller flock.

Egg Consumption Expected to Fall

For 1988, per capita consumption of eggs in all forms is expected to total 242, a decline of about 7 eggs. The reasons for a continued decline are well known and include a general move toward lighter or no breakfasts and health concerns. The 1989 forecast calls for another decline, with per capita consumption of about 237 eggs.

Egg Products Production Up

During the January-August 1988 period, nearly 6 percent more shell eggs were used in producing liquid, frozen, and dried egg products. Liquid egg production for immediate consumption was up nearly 12 percent in the 8 month period. Over the same period, frozen egg products rose 5 percent while dried product did not change.

Egg Prices Volatile

Wholesale prices for cartoned grade A large eggs in New York city have continued to fluctuate significantly for the past several months. Daily prices have exhibited a strong upward trend from mid-June to late-July, reaching an 18-month high of 77.5 cents per dozen. After a subsequent decline through August, prices rallied above the mid-summer high, reaching 79.5 cents in late-September. In mid-October, prices stabilized in the mid-60 cent-area. Third-quarter prices averaged 73 cents per dozen. During the fourth quarter, prices are expected to strengthen from mid-to late-October levels and average between 70 and 72 cents.

For 1989, wholesale prices in New York city are expected to average 69-75 cents per dozen, nearly 10 cents above the projected 1988 level. Quarterly prices are expected to average about 71,66 and 72 cents per dozen in the first, second, and third quarters, respectively. They are projected to strengthen to the upper-70-cent area during the fourth quarter.

Estimated Net Returns Expected Positive in Fourth Quarter

Estimated net returns to egg producers were about 4.4 cents per dozen in September, the first month of significant positive returns in a year. The reason for the positive figure was the combination of a sharp run-up in egg prices during the month coupled with a small decrease in estimated production costs.

The outlook for the fourth quarter is for negative net returns, as wholesale prices are projected to decline while production costs rise. A tentative forecast puts fourth-quarter net returns at negative 1.2 cents per dozen. For 1989, net returns are projected to be below breakeven during the first half. For the second half, forecasted lower feed costs coupled with stronger egg prices result in projected net returns averaging nearly 10 cents per dozen during the period.

U.S. Poultry Trade

Broiler Export Volume Down Slightly but Value Steady

Broiler exports in January-August 1988 totaled 484.3 million pounds, down 1.5 percent from a year earlier. Value was unchanged at \$232 million. The decline occurred despite a 45-percent increase in exports to Japan compared with a year ago, and a 160-percent jump in exports to Mexico. The decline was due primarily to much lower exports to Iraq and Egypt under the EEP. Exports to Iraq were only 8 million pounds and to Egypt 17 million compared to about 80 million and 47 million pounds during January-August, a year ago. These countries are importing less this year because of programs to increase their domestic production. Also, higher prices this year have weakened the United States competitive position, particularly in whole bird markets in the Middle East. Broiler meat prices in the EC, an important competitor in this region, have generally not increased this year while the EC export refunds at the end of September was \$610 per metric ton, 45 percent above a year ago. U.S. broiler exports to Saudi Arabia were only 2.7 million pounds, down 25 percent from a year earlier. However, exports under the EEP, to the countries of the Persian Gulf are up 17 percent, at about 4 million pounds, primarily due to EEP sales of whole chicken.

Exports to Mexico through August of this year were exceeded only by those to Japan and Hong Kong. Mexico has eased trade restrictions and tariffs and is using imported food supplies as part of an economic program to reduce inflation. The program has held the peso steady to the dollar since early in the year. A potential has developed for increased broiler exports to Jamaica

as a result of Hurricane Gilbert's severe damage to their poultry industry in mid-September.

Parts exports have increased 5 percent, and made up about 86 percent of total U.S. broiler exports compared to 81 percent in January-August a year ago.

Parts exports to Japan, however, made up 77 percent compared to 86 percent a year ago. Average export unit values of whole birds to Japan are relatively lower this year compared to parts. Average unit values for whole birds to Japan through August were down 17 percent from last year, to 54 cents per pound, while average parts values at 50 cents, were down only 4 percent.

Broiler Exports Down Slightly

With continued slow EEP exports expected, and more intense price competition, exports during 1988 are estimated to be slightly lower compared to the record year of 1987. Strong exports to Japan, other Far East markets and to Mexico should about offset the reductions to Iraq and Egypt.

During 1989, U.S. prices are expected to remain relatively high, with exports slightly below 1988. Exports under EEP are likely to remain low unless the U.S. bonuses are increased or the EC subsidies reduced. While sales to the Far East are expected to continue strong in 1989, those to Mexico could drop.

Turkey Exports Continue Strong

U.S. turkey exports in January-August 1988 were 34.5 million pounds, up 108 percent from a year earlier and equivalent to 1.3 percent of production. With

unit export values being slightly lower, value was up about 90 percent, to \$15.5 million. Turkey parts increased their dominance, making up about 90 percent of the total compared to 80 percent a year ago. Parts, with an average unit value of 43 cents per pound, were 32 percent cheaper than whole turkey.

Egypt, which is experiencing poultry meat shortages, has become the leading turkey meat importer, taking about 7 million pounds, nearly 11 times that of a year earlier. These imports were nearly all parts and had an export unit value of 25 cents a pound. West Germany continued to be a leading importer, taking about 5 million pounds at 50 cents per pound, but purchases have slowed since June, 1988. Exports are up sharply to Mexico, about 4 million pounds with an average value of 64 cents. These exports reflect Mexico's current strategy of importing U.S. foods to moderate its price inflation.

The outlook for further turkey exports to West Germany, our largest market in 1987 at 4.7 million pounds, was recently clouded when U.S. seasoned turkey was reclassified under a higher EC variable levy duty category. At these higher duty levels, U.S. turkey is priced out of the market. U.S. government officials are working with the EC Commission on an agreement to allow U.S. seasoned turkey access at the lower duty rate.

Higher U.S. turkey prices since May are expected to slow future export growth, but 1988 exports will still be about 35 percent above 1987's 33 million pounds. For 1989, with U.S. prices expected to be above 1988, expectations are that turkey exports will drop slightly below 1988. The outcomes of the on-going trade negotiations with Taiwan to re-open its market to U.S. turkey

parts, and with the EC over the classification of U.S. seasoned turkey, will materially affect the level of 1989 exports.

Egg Exports Up

U.S. exports of eggs January through August 1988 were above those of a year ago in all major categories. Total value was up about 30 percent to \$68 million. Table egg exports, about 19 million dozen, nearly doubled from last year and were valued at nearly \$12 million. Hong Kong, with 8 million dozen, continues to be the dominant buyer, assisted by the EEP. Other EEP exports have been slow, with about 1.7 million dozen actually exported to the Near East, out of sales of 3 million dozen table eggs. Exports to Mexico, nearly 2 million dozen, were over 13 times that of a year ago. While Iraq has not imported any U.S. table eggs under the EEP since the 4.3 million dozen early this year, it has purchased 4.1 million dozen of hatching eggs under a GSM-103 credit. Canada, with 5.2 million dozen, continued as the leading importer during January-August. Jamaica, with 1.4 million dozen, is also an important hatching-egg importer. The total value of hatching-egg exports was about \$30 million.

U.S. egg-product exports were the equivalent of 52.7 million dozen worth about \$26 million January through August, up 29 percent from a year ago. Exports to Japan, 42.7 million dozen equivalent, were up 33 percent and made up 81 percent of egg product exports. The U.S. gained Japanese market share from the EC, assisted by lower U.S. prices and the lower dollar relative to the yen.

Egg Exports Increasing in 1988 but Expected to Drop During 1989

Exports in 1988 will be boosted substantially during the last 4 months by a GSM-102 Export Credit Guarantee-assisted sale of 15 million dozen table eggs to Mexico. This is expected to make Mexico the largest importer of U.S. table eggs. Exports of hatching eggs to Jamaica are expected to increase as that country rebuilds its poultry industry following the devastation caused by Hurricane Gilbert in mid-September. Export credits include provision for hatching eggs.

Therefore, despite an expected drop in egg exports under EEP this year, mainly to Iraq, total 1988 egg exports including those as egg products should exceed last year's 111 million dozen by 20 to 30 percent.

Higher U.S. egg prices expected in 1989 will likely weaken exports.

Therefore, unless EEP sales are re-vitalized, 1989 exports may drop 12 to 20 percent from 1988. The extent of sales under export credit programs will also have an important impact on next year's exports.

Egg Imports Down

Total egg imports are down for the year to date, but rose sharply in August. Imports January-August 1988 at 2.9 million dozen were down 32 percent from a year earlier.

Shell egg imports at about 1 million dozen were down 56 percent from a year ago, with sharp reductions in imports from Israel and from the Netherlands.

The shell equivalent of egg product imports, at 1.9 million dozen, were down 10 percent. Canada's share was down lightly, to 85 percent, but in August recovered to the more usual 90 percent.

August Imports Up Sharply

During August 1988, total egg imports, at 1 million dozen, were highest since January 1987.

Shell egg imports rose from very low levels to 656,000 dozen and came mainly from West Germany, Finland and the Netherlands. The average unit value of these imports was only 36 cents per dozen. An upturn in U.S. table egg prices starting in June was likely a factor in the increased imports. Also the dollar, by early August, was no longer falling relative to European currencies, as it had been a year earlier.

Pork

Returns Drop, Breeding Inventories Decline

Net returns to hog producers fell sharply in the third quarter, a result of both higher feed costs and lower hog prices. Feed costs were boosted late in the second quarter by the drought, and hog prices suffered from a

The Dynamics of U.S. Egg Production: A Regional Perspective

by Robert V. Bishop and Lee A. Christensen

Introduction

The U.S. egg industry is undergoing numerous changes as it responds to significant changes in consumer demand, technology, and production costs. This paper examines trends in the industry which occurred over the past 30 years and discusses changes in regional production patterns over that period.

The U.S. egg industry is comprised of producers located throughout the country, each firm run according to individual management style and production technique. Location also plays an important role in both the day-to-day operations and the longer-term strategic planning of the individual firms. Although the producers differ significantly, they face common issues and challenges.

Overview of U.S. Egg Production

U.S. production of all eggs (table and hatching types) has ranged from about 62 to 70 billion eggs per year (5.17 to 5.83 billion dozen) during the 1960 to 1987 period. The 1960's were characterized by generally strong production growth, while the 1970's found considerable volatility in output. In 1973, production was sharply curtailed due to two unrelated but extremely important events. From late-1971 to 1973, an outbreak of exotic Newcastle disease in California depopulated that state's laying flock. Over the same

period, the Nixon Administration's wage and price controls (initiated in August 1971) were in effect, and profitability, both current and expected, was sharply curtailed. These factors played the crucial role in reducing production by 4 percent in 1972 and a further 11 percent in 1973, when producers also faced sharp cost increases for poultry feed. Total U.S. production did not reach the levels of the late-1960's until the end of the 1970's.

Total egg production during the 1980's has been near that of the mid- to late-1960's, but important changes have occurred within the industry over the past two decades. These include the location of production facilities, dramatic improvements in the laying efficiencies (rate of lay) of the flock, and, perhaps most importantly, increased concentration of production.

In 1960, the number of eggs produced per hen was 209, by 1987 it had increased to 248, up nearly 19 percent. Monthly egg production numbers very clearly indicate that by the 1980's, most of the seasonality in output has been removed. These advancements are attributed to improved genetic strains (breeding) and better management techniques. Technological innovations the past two decades, have affected how the hens are housed, the way eggs are handled, as well as the previously mentioned increases in laying efficiency. Very large in-line complexes, some housing one million or more hens, are responsible for an increasing share of production. Also, the largest entities in the business control greater numbers of hens.

Overall Trends in Egg Production and Consumption

U.S. egg producers have faced declining per capita consumption of their product for decades. Per capita egg consumption (shell eggs and shell egg equivalent of products) fell from a war-inflated peak of 402 in 1945, to 389 eggs in 1948 to an estimated 246 in 1988 (see figure 2). The overall growth in the U.S. population and the very large rise in chicken consumption, which caused sharp increases in hatching egg production, have pushed total egg production in 1988 to near the level of the late-1960's, in spite of the dramatic drop in the per capita consumption numbers. Examining total production, hatching use, and total egg consumption for 1988 and 1968 is particularly revealing. Estimated production during 1988 (all table and hatching eggs) is 5,729 million dozen, about 49 million dozen above 1968 production. Hatching use during 1988 is expected to be 607 million dozen (about 11 percent of total egg production). This is 245 million dozen more hatching eggs than in 1968. However, consumption of all eggs (shell and shell egg equivalent of egg products) for 1988 is 322 million dozen below that of 1968.

Why has per capita egg consumption fallen year after year? The answers most often fall into two main categories, changing demographics and health issues. The prominent demographic issues are fewer people living on farms, more two-worker households, and greater competition for the breakfast meal. Trends toward easy to fix breakfasts with fewer calories, or to no breakfast at all also reduce egg consumption. Cooking eggs for breakfast and the clean up loses out to the convenience of a bowl of cereal. One 2-ounce egg (the

minimum weight of a USDA large egg) contains about 240 milligrams of cholesterol on average. Following the advice of the American Medical Association to reduce the level of serum cholesterol in their diet, many Americans have made a conscious effort to eat fewer eggs.

Unless there is a dramatic breakthrough in reducing the amount of cholesterol in eggs (or in a person's blood, using medications currently being developed), the long-term outlook calls for continued reduction in per capita consumption. Unless the industry comes up with new innovations, the convenience issue will continue to limit any future potential gains in whole egg consumption.

Changes in the Egg Industry

Egg production in the U.S. traditionally came from a large number of relatively small flocks scattered throughout the country. Today's egg industry bears little resemblance to that image. Production has become more concentrated over time, is comprised of larger firms, and has undergone a realignment in the geographical location of major producing areas. According to egg industry, about 48 percent of all layers were in flocks totaling one million birds or more in 1987 (See Table 1).

During 1987, the five largest egg producing firms accounted for about 14 percent (38 million hens) of the commercial laying flock, while the top 10 companies controlled nearly 21 percent (or 58 million hens). The Nation's largest producer controlled about 12 million hens. While the industry was becoming more concentrated, very significant changes were also occurring in the relative share of production located in various regions.



The Regional location of total egg production has changed dramatically over the past three decades. In 1960, production was most heavily concentrated in the North Central region, which accounted for about 42 percent of the Nation's production that year. The North Central region has declined in relative importance, although it remains a major producer. The most interesting aspect of the change over the past three decades is the movement of production facilities out of Iowa, South Dakota, Nebraska, Kansas, and Minnesota into Indiana and Ohio.

North Central Region

The North Central region includes two producing areas, the East and West North Central Regions. These two regions had markedly different production patterns over the past three decades.

The East North Central region is comprised of Wisconsin, Michigan, Illinois, Indiana, and Ohio. In 1975, this region's output was 8,588 million dozen (the lowest since 1960), representing 13.3 percent of total U.S. production. In 1987, this region accounted for a record 13,343 million dozen, 19.2 percent of the national production. East North Central production has increased in each of the past 10 years. In 1960, this region was ranked second behind the West North Central region, and produced 10,798 million dozen eggs. In 1987, the region was second, behind the South Atlantic region. Indiana and Ohio produce 76 percent of the region's total. Indiana's output has more than doubled since 1975, and reached 8.3 percent of total U.S. production in 1987. Indiana is the second largest producing State in the nation, behind California. Ohio

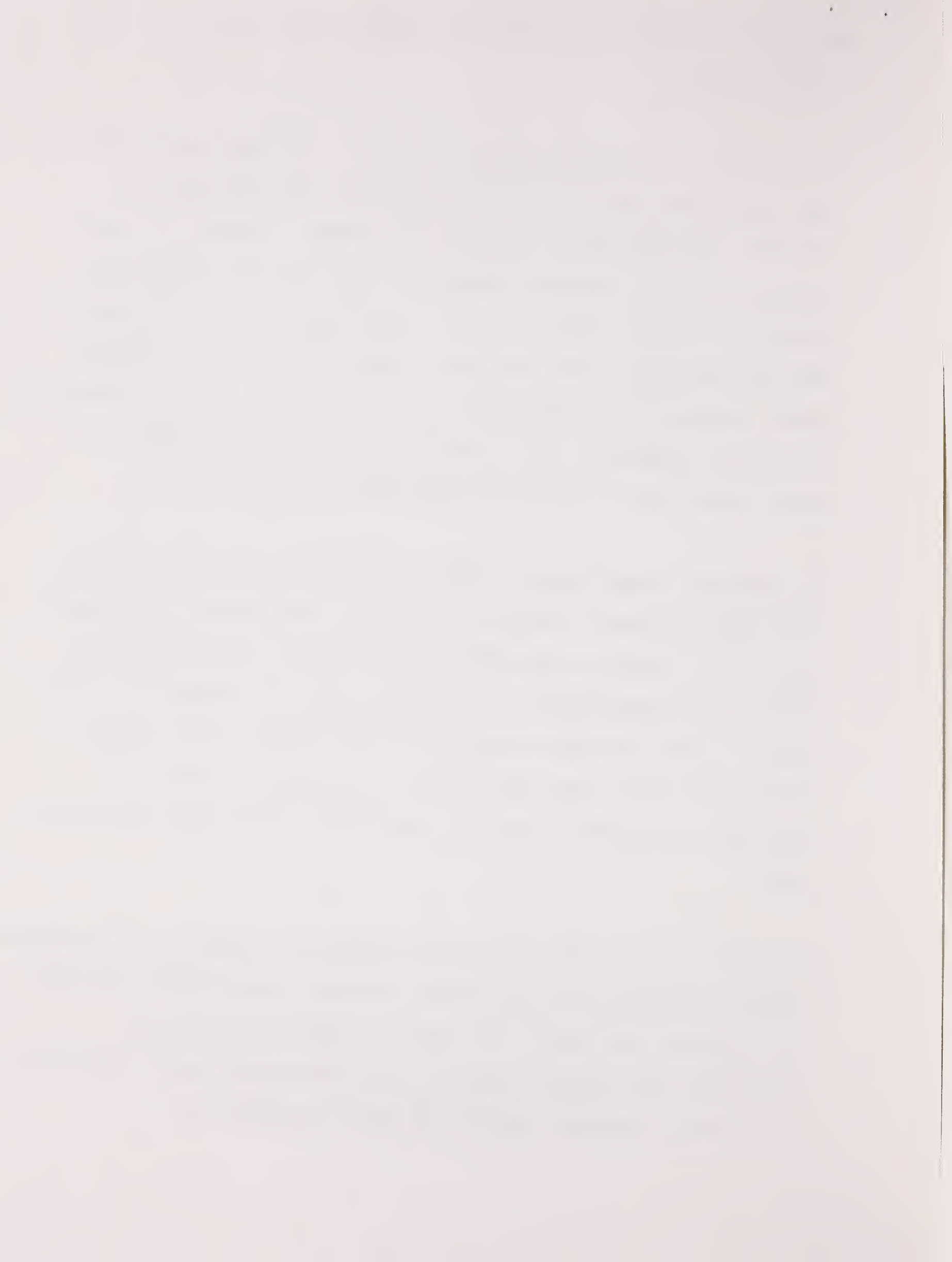


accounted for 6.3 percent of total U.S. output in 1987 and was the fifth largest producer.

The dynamics of the industry suggest that some of the forces which tended to move egg production out of the East North Central region may have been reversed. Cost advantages associated with proximity to grain and oilseed production have again asserted themselves. The adoption of large in-line production techniques, particularly in Indiana and Ohio, have exploited the feed cost advantages. With these new plants, it is possible to have eggs graded, packaged, and shipped within 2 hours. This has contributed greatly to the midwest's expanding share of eggs sold in the high-priced California market, as well as in the large metropolitan markets in the East.

The West North Central region is made up of Iowa, Missouri, South Dakota, North Dakota, Nebraska, Kansas, and Minnesota. This region has undergone a very dramatic decline in egg production since 1960. In 1960, it was the largest egg producing region in the country, with 24.5 percent of the U.S. total. In 1987, the region accounted for 10.2 percent of U.S. output, a decline of 53 percent from 1960. Most of the decline occurred in the late-1960's as production facilities moved out of nearly every State in the region.

The shift out of the West North Central region was prompted by more profitable alternative uses for the agricultural resources, less efficient feed mills than elsewhere, and smaller, less efficient production facilities. Furthermore, the marketing channels in the North Central region tended to be longer and more complex, resulting in higher marketing costs.



South Atlantic Region

The South Atlantic region , Georgia, North Carolina, South Carolina, Florida, Delaware, Maryland, Virginia, and West Virginia, produces the most eggs. In 1987, it accounted for more than one of every five eggs produced in the United States. Regional production actually peaked in 1979 at 15,577 million. In 1987, output was 14,015 million eggs, a modest .5 percent increase over a year earlier.

South Central Region

The West South Central region of Arkansas, Louisiana, Oklahoma, and Texas increased output 88 percent between 1960 and 1987, and raised its share of total U.S. output from 7.3 to 12.1 percent. Regional output rose fairly steadily through its peak year 1980, and then declined. A modest rebound occurred in 1986, and continued in 1987. Hatching egg production has been a major contributor to the region's overall growth. Arkansas and Texas are the key producing States in this region. Following explosive growth in the 1960's, production in Arkansas has been stagnant. Texas, on the other hand, experienced steady, albeit modest, growth during the entire 1960-1987 period.

The East South Central region (Alabama, Kentucky, Mississippi, and Tennessee) accounted for about 7.2 percent of total U.S. egg production in 1987. However, output declined steadily after its peak in 1968. During 1987, the region produced 5,000 million eggs, 28 percent less than its record output of 1968. Alabama is the largest producer, accounting for over 52 percent of the area's total.

Middle Atlantic Region

The Middle Atlantic region of Pennsylvania, New Jersey, and New York accounted for 9.3 percent of the national egg production in 1987. Regional production declined from the period-high 7,248 million eggs in 1960 to a low of 5,152 million in 1976. Between 1977 and 1980, production increased to the 6,300-million egg area. Output has ranged from 6,226 million in 1984 to 6,958 million in 1985.

Pennsylvania, the Nation's third largest producing State, is by far number one in the region, accounting for over 75 percent of the regional total.

Production fluctuated between 2,700 and 3,450 million eggs during the 1960-78 period. Output increased somewhat erratically to a record 4,853 million eggs in 1987.

Production in New Jersey fell sharply over the 1960-87 period. Despite a modest recovery since 1984, 1987 output was 76 percent below that of 1960.

New York's production has declined since a peak in 1968. The rate of decline accelerated in both 1986 and 1987 with production last year nearly 40 percent lower than in 1960.

New England Region

The New England region (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) produced about 4.3 percent of the U.S. total in

1987. Regional production increased a modest 34 percent between 1960 and 1979, and has since declined 16 percent. Maine and Connecticut produce the bulk of the region's eggs, with 71 percent of the total. Maine is the region's top producer, with Connecticut close behind.

Mountain Region

The Mountain region, Arizona, New Mexico, Colorado, Utah, Nevada, Idaho, Montana, and Wyoming, accounted for only about 2 to 3 percent of the annual national production from 1960 to 1987. The past 2 years have found modest gains in production.

Pacific Region

Egg production in the Pacific Region (California, Oregon, and Washington) was 14.3 percent of the Nation's total in 1987. California, the Nation's number one egg producer, accounted for 81 percent of the region's output in 1987, and 11.5 percent of the Nation's total. Production in California increased more than 61 percent between 1960 and 1971 to a record 9,012 million eggs. However, following an outbreak of Newcastle disease in late-1971, production dropped significantly over each of the two subsequent years. Production in 1974 bounced back somewhat to 8,485 million eggs. Between 1975 and 1987, output fluctuated between 8,800 and 7,850 million eggs. With the exception of the disease ravaged 1973, production was lower in 1986 and 1987 than any year since the mid-1960's.

Production in Washington has been relatively stagnant during the 1980's, but at a level 25 to 30 percent above that of the early-1960's. Washington accounts for about 13 percent of the regional total, while Oregon produces about half as much.

High prices in California have attracted eggs produced outside the Pacific Region. In 1985, eggs moving into California from other states were the equivalent of about 2.5 percent of the State's production. Imports during 1986 and 1987 were 2.0 and 3.1 percent, respectively. Key States exporting to California include Indiana and Texas.

Table 1. Firms Owning at Least One Million Hens 1/

Year	Number of Firms	Million Firm Layer Totals	Number Table-Type Layers in U.S.	Percent of Total
--- millions of hens ---				
1980	45	92.7	256.6	36.1
1981	47	96.4	255.3	37.8
1982	58	111.4	249.6 2/	43.3
1983	56	109.7	244.6	44.8
1984	63	131.0	247.3	53.0
1985	61	139.5	243.4	57.3
1986	53	129.8	242.3	53.6
1987	52	136.0	244.6	55.6

1/ Source: egg industry, Poultry Tribune, and USDA.

2/ Estimated using existing data and historical trends.

THE JAPANESE BROILER INDUSTRY AND THE ROLE OF THE U.S. EXPORTS

Lee A. Christensen & Lawrence Witucki

Since 1980, the U.S. has exported between 3 and 6 percent of its annual broiler production, with Japan consistently the biggest customer, taking between 16 and 35 percent (Table 1). Factors behind the strong Japanese demand for U.S. broilers include the relatively inexpensive U.S. prices, aided since 1986 by the weakness of the dollar relative to the Japanese yen, and aggressive marketing by the U.S. poultry industry. Contributing to an expected further expansion in exports is a growing demand for chicken within Japan and constraints to rapid growth of the Japanese poultry industry.

The potential for U.S. exports to Japan will be influenced by the growth in Japanese demand for broilers; whether this demand will be met internally or from imports; and the competitiveness of U.S. broiler exports relative to other exporting countries.

Characteristics of the Japanese Broiler Industry

Japanese broiler production has expanded dramatically since its start in 1958. Between 1963 and 1988, production increased from 45,000 to 1,480,000 metric tons. Japan is the fifth largest broiler producer in the world, almost exclusively for domestic consumption. It is the largest importer of broiler meat in the world. Production in 1987 was 1.861 million tons (liveweight), with the average bird size of 5.45 pounds. Historically the poultry industry

was located in the Tokai region of central Japan, around the city of Nagoya. Broiler production has been shifting from the heavily populated areas to the southwestern island of Kyushu, which produced 45 percent of total in 1987 and to the northern region of Tohoku, with 20 percent, because of lower land and labor costs and fewer pollution problems.

The broiler industry is becoming more and more concentrated in the hands of fewer and larger producers and processors. In 1987, there were approximately 6,300 producers with average annual shipments of around 119,000 birds per farm. The number of producers is down sharply from 19,000 in 1966. About 750 million broilers were produced in 1987. Almost 28 percent came from 307 farms raising more than 300,000 birds per year, while 47 percent was produced by 2,160 farms with between 100,000 and 300,000 birds annually.

Japanese broiler production is concentrated in integrated operations. The 10 largest companies and co-ops produced 40 percent of all broilers and the largest 25 produced 60 percent of the 1987 total. Zen-Noh, the national agricultural cooperative accounted for 20 percent of 1987 production. There are approximately 100 broiler companies and cooperatives. Nearly 170 processing plants, each slaughtering one million or more broilers annually, account for 90 percent of Japanese output.

The Japanese define an "integrated" poultry company differently than in the U.S. Typically a company does not own the chickens through the entire production process from hatching to slaughter. Japanese broiler farmers buy their chicks and feed from integrators, raise the broilers, and in turn sell the chickens back to the processors at an agreed upon price. Most Japanese

integrators buy their rations from feed companies and their chicks from independent hatcheries. Grain importation is generally done by large trading and feed companies. In 1987, Japan imported 22 million tons or around 90 percent of ingredients to manufacture 25 million tons of feed. Most of the ingredients are imported from the U.S. and mixed at or near the ports on the Pacific.

Japanese Demand for Broilers

Fish is the dominant meat consumed in Japan, but consumption has been at a relatively constant level since 1974, when annual per capita consumption was around 77 pounds. Total red meat and poultry consumption in 1974 was 30.8 pounds per capita. Fish consumption in 1987 was 79.2 pounds per capita compared to 83.5 pounds for total red meat and poultry. Pork consumption was 34.6 pounds, followed by poultry with 30.2 pounds and 15.9 pounds for beef. Chicken consumption has been aided by its relatively low price. In the past 20 years the retail price of beef has risen 4 times, pork two times, but chicken only 1.5 times. Total meat consumption in 1987 was 4.7 million tons of which 1.13 million were imported.

The Japanese consume about 53 percent of domestic chicken production away from home and only 40 percent in fresh use at home. Seven percent is used in processed foods. Yakitori, a bite-sized marinated chicken pieces grilled on bamboo skewers, is a popular way to eat chicken, and accounts for about 10 percent of total use. Broiler use in fast food chains contributes greatly to consumption. Kentucky Fried Chicken, in Japan since 1970 and currently operating around 800 franchises, uses about 7 percent of all broilers produced in Japan. McDonald's has about 500 franchises promoting chicken nuggets.

Imported broiler meat is used primarily in supermarket chains or in the foodservice industry. Imports from the U.S. have been primarily bone-in legs, which are sold at a price considerably below the domestic product. Thailand has been supplying primarily boneless meat, but it is moving into the area of value-added products, such as yakitori and boneless, skinless breast meat.

Most Japanese broilers are distributed as fresh, deboned, further processed products, and only 20 percent in the fresh, whole carcass form (New York dress). These whole carcasses are distributed mainly to traditional chicken meat shops where they are deboned and sold as fresh sliced meat.

One factor behind larger 1988 imports is slower growth in Japanese production. In 1987, production was up about 3 percent and will likely increase about 1 percent in 1988, in spite of lower feed prices early in the year. Per capita consumption has increased each year except 1981, when production dropped slightly. In 1986, production increased only 1.2 percent and imports jumped over 70 percent. Total Japanese imports from all countries could increase about 17 percent this year, and U.S. exports to Japan are expected to increase about 40 percent. When Japanese production dropped in 1981, imports increased 36 percent. In 1982 production rose sharply, and U.S. exports to Japan dropped. Japanese imports from the U.S. increased in 1983 as supplies from Thailand were reduced. In 1984 and 1985, the strong dollar relative to the yen reduced Japanese imports of U.S. broilers.

Competition for the Japanese Market

The increasing Japanese demand for broiler meat has attracted imports from other countries. While the U.S. has proven to be a consistent and reliable supplier, Thailand and Brazil are also increasing shipments.

Thailand started exporting broiler meat to Japan in the late 1970's, and passed the U.S. in 1987 as the leading source. Thailand has been increasing production very rapidly but its exports are constrained in some years. In 1988, high feed costs have slowed production, and some of its exports to Japan have been rejected due to pesticide residues. As a result, Thailand's exports are expected to stagnate or drop this year.

Most Thai exports to Japan are labor intensive deboned meats and speciality cuts, which capitalizes on their lower labor costs. Higher value exports to Japan include such products as yakitori, wingsticks, and boneless leg steak. Bone-in parts are also exported. All are prepared as high-value items. Japan is taking about 90 percent of Thailand's exports. If Japan continues to prefer the highly processed, labor intensive, type of poultry meat, Thailand will remain a major competitor to the U.S. Nine major exporters in Thailand may be joined by a large Thai-Japanese firm that could add 20 percent to Thailand's exports over the next several years.

Brazil began exporting to Japan in 1983 when Thailand's supplies declined. The Brazilians have apparently tailored their exports to the Japanese market, bone-in and boneless, and mostly parts. During the first half of 1988,

Brazil's exports of parts rose 10,000 metric tons or nearly 40 percent over 1987, while exports of whole birds declined. Most of the increase went to Japan. The average export price of Brazilian broiler parts was two-thirds above whole bird prices. Brazil's export prices during 1988 were lower than 1987, because of sharp devaluations of its currency.

Looking Ahead

Continued growth in the Japanese demand for broilers is expected. While domestic production can expand some, it probably won't keep pace with demand due to environmental concerns, and relatively high production costs, especially for feed. Thus imports are expected to contribute an increasing share to total broiler meat consumed in Japan. The U.S. has the most experience in marketing broilers to Japan, but Brazil and Thailand have become important players in the market.

Unlike beef, Japan applies no import quotas to poultry meat. However, tariffs are applied to poultry meat imports. The level of these tariffs in 1980 was 20 percent on chicken meat other than frozen bone-in chicken and 13.5 percent bone-in chicken legs. These tariffs have been reduced to a current level of 14 percent and 10 percent respectively, following the Tokyo round of the multilateral Trade Negotiations. No further reductions are planned.

A factor which will have a significant impact on broiler demand in Japan is the phased lifting of trade barriers against beef. Increased beef imports from the U.S. and Australia may depress broiler prices, especially for locally produced fresh chicken meat which represents 40 percent of the market. Growth

can still occur in the markets for prepared foods, restaurants, and fast food outlets. Furthermore, there is considerable potential for increases in per capita poultry consumption in Japan, given the increasing consumer income and the perception of the Japanese consumer that poultry is a very healthy meat.

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Table 1--U.S. Broiler Production, Exports, and Exports to Japan, 1980-1988

Year	Total Production	Total Exports		Exports to Japan	
	Million pounds	Million pounds	Percent	Million pounds	Percent
1980	11353	567	5.0	90	15.9
1981	11985	719	6.0	138	19.2
1982	12167	501	4.1	116	23.2
1983	12400	432	3.5	140	32.4
1984	13017	407	3.1	111	27.3
1985	13762	417	3.0	98	23.5
1986	14316	566	4.0	167	29.5
1987	15594	752	4.8	171	22.7
1988 <u>1/</u>	16279	693	4.3	240	34.6

1/ Estimated

Table 2--The Japanese Poultry Market Since 1980

Year	Production	Imports	Total Consumption	Per capita Consumption	Production as share of consumption
		1000 metric tons		lbs	Percent
1980	1154	72	1224	23.1	94.3
1981	1134	98	1235	23.1	91.8
1982	1209	106	1312	24.4	92.1
1983	1257	105	1354	25.1	92.8
1984	1309	107	1414	26.0	92.6
1985	1395	104	1474	26.8	94.6
1986	1421	180	1563	28.4	90.9
1987	1465	202	1667	30.1	87.9
1988 <u>1/</u>	1480	237	1740	31.3	85.1

1/ Estimated

Table 3--Major suppliers of Broilers to Japan

	1980	1987	1988 <u>1/</u>
	1,000 Metric tons		
U.S.	41	78	109
Thailand	16	82	75
Brazil	0	21	25
China	12	11	15
Others	1	3	6
Total	70	195	230

1/ Estimated

